

THE AUTOMOBILE

WEEKLY

NEW YORK—SATURDAY, APRIL 9, 1904—CHICAGO

10 CENTS



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10 CENTS

A. C. A. SERVICE TEST OF MOTOR WAGONS.

TRAVELING quickly and almost noiselessly around New York every day this week, carrying anything in baggage from a package of handkerchiefs to a few tons of pig-iron, are seventeen

for commercial purposes. They are participating in a week's "service test of motor wagons" promoted by the Automobile Club of America, and their work is being carefully recorded by competent

the test may be made a thorough one the cars have been bound out to serve the American and Westcott Express Companies, doing the same duty as that allotted daily to the horse-drawn wagons.



PHOTOGRAPH AT THE START SHOWING, COMPARATIVELY, AMOUNT OF SPACE OCCUPIED BY HORSE DRAWN AND MOTOR WAGONS.

motor vehicles, delivery wagons, express wagons and ponderous trucks, the constructions of men who are trying to prove the advantage of such vehicles over those drawn by horses, in the carting of goods

observers who occupy seats on the wagons during their progress to and fro in the city and suburbs.

Electric, steam, and gasoline wagons are included among the seventeen, and that

The work of the first three days warrants the prediction that this test will demonstrate their great value for the service, and presages the time when the workhorse shall disappear from the city's streets and

THE AUTOMOBILE.

April 9, 1904.

power-driven machines will do double the amount of work while taking up less than half the amount of space.

That the dear old horse seemed to feel that his emancipation is close at hand was best evidenced by the curious eye that he gave to the puttering machines as they lined up alongside of him at the express office, Forty-sixth Street and Madison Avenue, close to the tracks of the New York Central Railroad. He could not but see that here was a machine of great power, wonderful endurance, and not prone to run away, which could do more work in a day than he could do in twice the time, and eventually do that same work at a cost much less than is now required to keep him in oats and bedding.

The purpose of the test is to provide a practical demonstration of commercial automobiles under actual working conditions, and the rules were made solely with that idea in view. The contest committee, consisting of John A. Hill, chairman, Emerson Brooks, Roland R. Conklin and S. M. Butler, secretary of the club, arranged with the American and Westcott express companies and the H. Clausen & Son Brewing Co. to take charge of the vehicles for a week and require them to perform the same service as the horse-drawn wagons.

Full information regarding the weight, motive power, and equipment of the vehicles were required, together with a statement of the load which they could carry. They were classified according to the last named condition.

Every day the greater number of the cars leaves Madison Avenue and Forty-sixth Street, Grand Central Depot, on the regular runs of the express company. Two of the cars entered are being used by a brewery company, which requires them to do the same service as one of the largest horse-drawn trucks in use. On each wagon is an official observer who notes the number of stops made, the number of packages delivered, the amount of fuel and water required, and the repairs, if any, that are made during the test.

Each night the cars must report at a garage where they are stored over night. Included in the running time is one hour and a half which is allowed each day for luncheon.

At the conclusion of the run, first, second and third medals will be awarded in each class for the best three records, based on economy in operation, in time and fuel, ratio of paying load, ton mileage, and general reliability and availability for service.

Of the eighteen original entries, seventeen cars started on last Monday morning, the only missing one being the steam delivery wagon of the Commercial Motor Company, which was not completed in time. The cars carry a sign reading "American and Westcott Express Company Automobile Club Service Test." Some of them also carry a sign giving the name of the maker and the amount of load.

Each wagon is equipped with a Veeder odometer and carries, in addition to the operator, an expressman and an official observer; except the small wagons where the expressman does the work of the observer as well as his own. Some of the observers are Columbia University students who have been willing to get up with the sun each morning in order to study motor vehicle transportation. A couple of them lost their interest after getting a cold supper at 9 or 10 o'clock on the first night, and their places were taken by men hired for the purpose. Walter H. Stearns has charge of the observers and Joseph Tracy, superintends the depot on Eighth Avenue, where the electric wagons are stored over night.

The express companies' end of the test is looked after by W. H. Long, superintendent of transportation; C. J. Blenthorn, master of transportation, and George W. Slingerton, general manager.

As a preliminary test the Knox delivery wagons No. 5 and 6 were driven over the 150 miles of roadway from Springfield, Mass., on Friday and Saturday, reaching here under their own power, after some adventures in the mud. They left Springfield at 7 o'clock Friday night and reached New York at 11 o'clock Saturday night.

Carl Page, of the New York branch, has furnished a White steam car as the official vehicle for the contest committee.

An excellent arrangement of routes is in effect, which gives every car about the same journey, and incidentally demonstrates its value under various surface conditions.

OFFICIAL ROUTES

Sixteen routes are provided for the commercial vehicles and during the test each entrant will be sent over six of them. They are the regular express routes, varying from 3 1/4 to 30 miles. Two or three trips are made over the short ones. Following is the route schedule that was arranged in concise form, and the storage and charging stations.

ROUTE SCHEDULE.

ROUTE 1.—Madison Avenue Depot, 8 a. m., to Jamaica, L. I., via Brooklyn Bridge, 8 and 10 Fulton St., thence Dean St. to 1,400 Fulton St., Fulton St. to East New York Depot, Jamaica Avenue to Jamaica, L. I. Returning via Richmond Hill and Myrtle Avenue to office, 106 Broadway, thence via Williamsburg Bridge to Madison Avenue Depot. Distance, 30 miles.

ROUTE 2.—Madison Avenue Depot, 8 a. m., to Flushing, L. I., via Brooklyn Bridge 8 and 10 Fulton St., 1129 Myrtle Ave., through Melrose St., to Flushing Ave., Grand St. and Brooklyn Heights R. R. Line, via Corona to Flushing, returning via Brooklyn Heights R. R. Line and Grand Street, to 106 Broadway, Brooklyn; then via the Williamsburg Bridge to Madison Avenue Depot. Distance, 25 miles.

ROUTE 3.—Madison Avenue Depot, 8 a. m. West Side transfer service between Madison Avenue Depot and West 125th Street, stopping at 683 and 315 Colum-

'bus Avenue in both directions and repeat. Distance, 14 miles.

ROUTE 4.—Madison Avenue Depot, 8 a. m. East Side transfer service between Madison Avenue Depot, and 138th Street, stopping at 72d Street and Third Avenue and 86th street and Lexington Avenue in both directions and repeat. Distance, 16 miles.

ROUTE 5.—Baggage service. Grand Central Station 8 a. m.

First Trip—Leave Depew Place at 8 a. m. deliver baggage from 14th St. to Maiden Lane, 4th to 6th Aves., West Broadway to Mott Street. Distance, 7 miles.

Second Trip—Leave Grand Central Depot 12:00 noon, baggage to Penna. R. R. Depot, foot of West 23d Street. Distance, 3 miles.

Third Trip—Leave Grand Central Depot 2:30 p. m., baggage delivery to hotels, etc., 42d to 10th Sts., 4th to 6th Aves. Distance, 4 miles.

ROUTE 6.—Madison Avenue Depot, 6 a. m. Merchandise delivery, 14th to 34th Street, Third Avenue to East River. Repeat. Distance, 8 miles.

ROUTE 7.—Madison Avenue Depot, 8 a. m. Transfer service between Madison Avenue Depot and 65 Broadway, making all offices south of 47th St., two round trips, then to office at 4th St. and Lafayette Place for load to the depot. Distance, 7 miles.

ROUTE 8.—Madison Avenue Depot, 8 a. m. Merchandise delivery, from 47th to 110th Sts., Fifth Avenue and Central Park to North River. Repeat. Distance, 13 miles.

ROUTE 9.—Madison Avenue Depot, 8 a. m. Merchandise delivery, 47th to 110th Sts., Fifth Avenue and Central Park to East River. Repeat. Distance, 13 miles.

ROUTE 10.—Madison Avenue Depot, 8 a. m. Package delivery, 23d to 59th Sts., Fifth to Seventh Avenues. Repeat. Distance, 8 miles.

ROUTE 11.—Madison Avenue Depot, 8 a. m. Package delivery, 14th to 34th Sts. Fifth to Seventh Avenues. Repeat. Distance, 6 1/2 miles.

ROUTE 12.—Madison Avenue Depot, 8 a. m. Package delivery, 14th to 34th Sts., Second to Fourth Avenues. Repeat. Distance, 6 1/2 miles.

ROUTE 13.—Madison Avenue Depot, 8 a. m. Package delivery, Houston to 14th Sts., Third Avenue and Bowery to East River. Repeat. Distance, 8 miles.

ROUTE 14.—Madison Avenue Depot, 8 a. m. Merchandise delivery, 14th to 34th Sts., Seventh Avenue to North River. Repeat. Distance, 9 miles.

ROUTE 15.—Madison Avenue Depot, 8 a. m. Market delivery to Fulton Fish Market, bring load of fish from market to depot, then make trips between Madison Avenue Depot and 443 West 125th Street, stopping at 315 and 683 Columbus Avenue in both directions. Distance, 13 miles.

ROUTE 16.—Madison Avenue Depot, 8 a. m. Market delivery of fish to Fulton Fish Market, bring load of fish from market to depot, then make trips between Madison Avenue Depot and 138th Street, stopping at Third Avenue and 72d Street and Lexington Avenue and 86th Street in both directions. Distance, 13 miles.

STORAGE STATIONS.

No. 1.—For Gasoline and Steam Wagons: Metropolitan Motor Car Co., 154 East 57th Street.

No. 2.—For Electric Wagons: New York Transportation Company, Eighth Avenue and 49th Street.

ELECTRIC CHARGING STATIONS.

BROOKLYN.—Edison Electric Illuminating Company, 358 Pearl Street.

EAST NEW YORK.—Edison Electric Illuminating Company, Stone Street, corner Somers, near Cypress Hills Cemetery, on Route No. 1.

FLUSHING.—N. Gilroy, 81 Grove Street.

OBSERVERS' REGULATIONS.

As explained in the official letter to observers, they were required to adhere to the following rules:

DUTIES OF OFFICIAL OBSERVERS IN CHARGE OF WAGONS DURING THE RUNS.

To be in attendance at Storage Station No. 1 or No. 2 on each of the six days of the test, beginning Monday, April 4, at 7:30 a. m., and take charge of the wagon to which he is assigned.

He will receive from the official in charge of the Storage Station directions as to where and at what hour to report for service.

Immediately before starting from the Storage Station, to see that gasoline and water tanks are completely filled, or in case of electric wagons to note and record voltmeter and ampere-meter readings.

To note and record the odometer reading before the start.

To note and record the exact time of departure and return to the Storage Station.

To record the number of passengers.

To record the duration of all stops for loading, unloading or delivering merchandise, or from whatever cause, and to state the cause for each stop, and where such stop was made.

To record the amount in pounds and character of the load taken on at the loading depot, or at any other point.

To keep the Observer's Record of each day's run and observe the general behavior of the wagon on the road, noting any repairs that may be made.

To check the measuring of water and gasoline taken on during any run, and also the amounts required to fill tanks at the Storage Station at the end of each day's service. In case of electric wagons to note and record the amount of current taken during any run, and where taken, and also to record voltmeter and ampere-meter readings at the end of each day's service.

To note and record the odometer reading

at the Storage Station at the end of each day's service.

To transfer the wagon to the custody of the Committee's official at the Storage Station, at the end of each day's service, securing his signature to the Observer's Record.

To sign the Observer's Record at the end of each day's service, and hand it to the official in charge of the Storage Station.

The First Day.

Promptly at 8 o'clock Monday morning the first of the competitors left the express depot with an assortment of merchandise, including trunks, cases and a crated stag's head. It was bound for Jamaica, L. I. Within less than an hour all the others had loaded and departed. Shortly after 6 o'clock two big trucks, the Herschman steamer and the Fischer combination had left the Clausen brewery at 47th Street and Second Avenue. The first was bound for Yonkers with fifty half-barrels of beer, while the second was headed for Flushing, L. I., with sixty half-barrels weighing 12,000 pounds.

According to reports made by the observers Monday night, the machines did remarkably well. For example, the big Fischer truck delivered its sixty kegs of beer at Flushing after getting there in two hours, and picking up 4,000 pounds of "empties" returned at 4:40 o'clock in the afternoon. The Herschman truck was not so fortunate, for after reaching Yonkers at 3:30 o'clock in the afternoon, it remained there over night. Nearly all the other cars were in the official garage by 7 o'clock,

(Continued on page 406.)

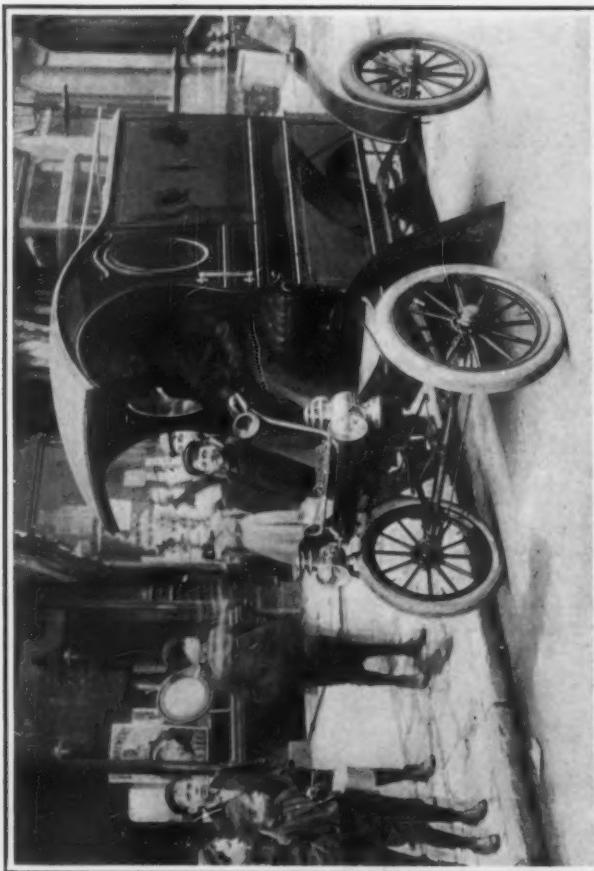


POPE-WAVERLEY ELECTRIC 1,000-POUND DELIVERY WAGON.

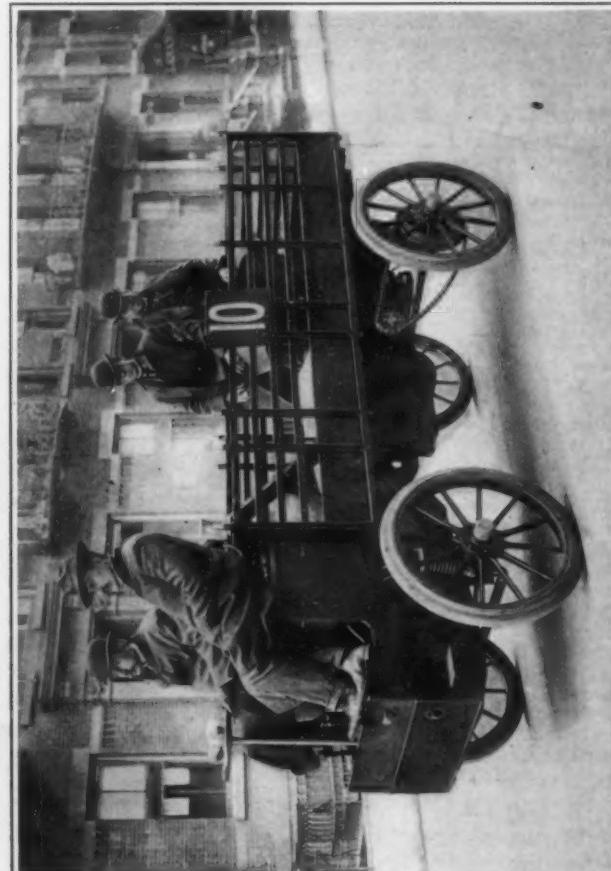


HERSCHMAN SIX-TON STEAM STAKE TRUCK, WITHDRAWN ON TUESDAY.

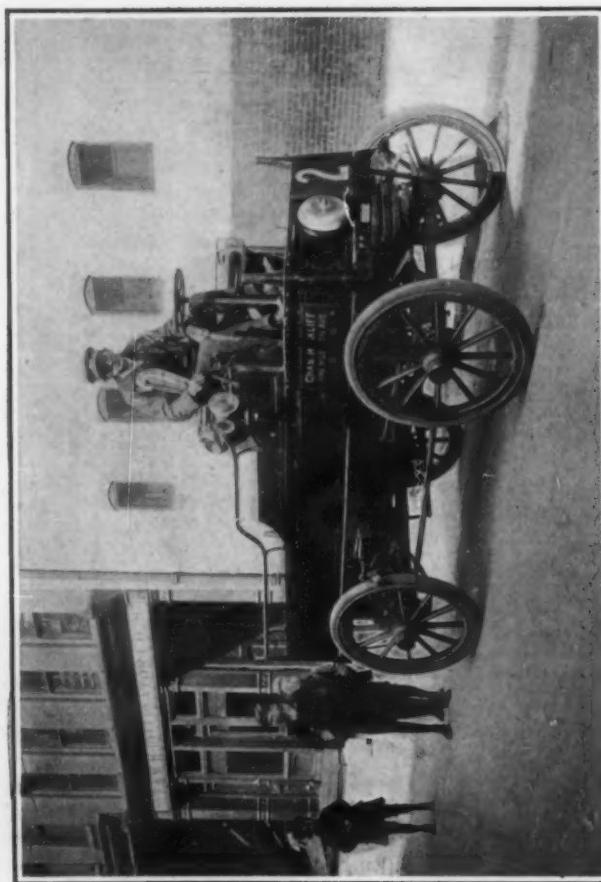
April 9, 1904.



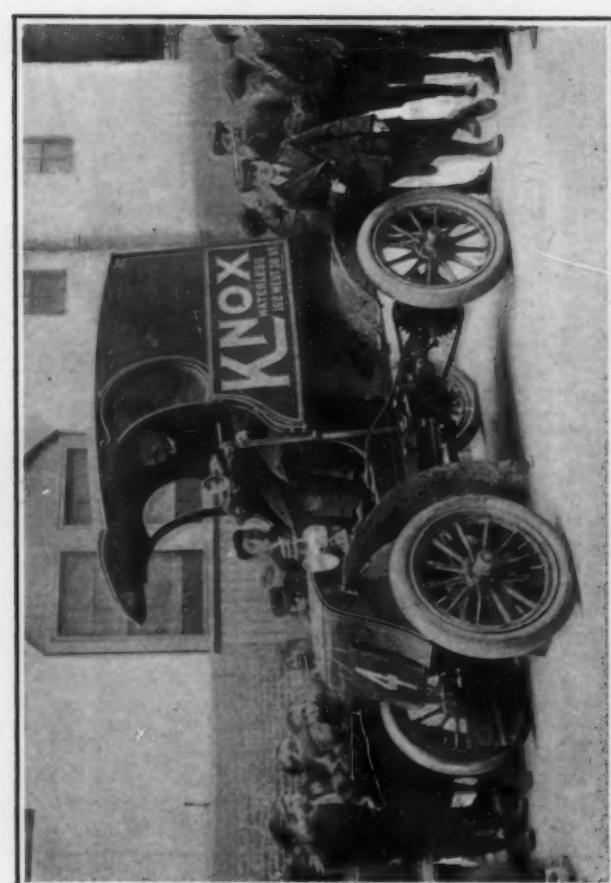
Olds, 500 pound, Gasoline Light Delivery Wagon.



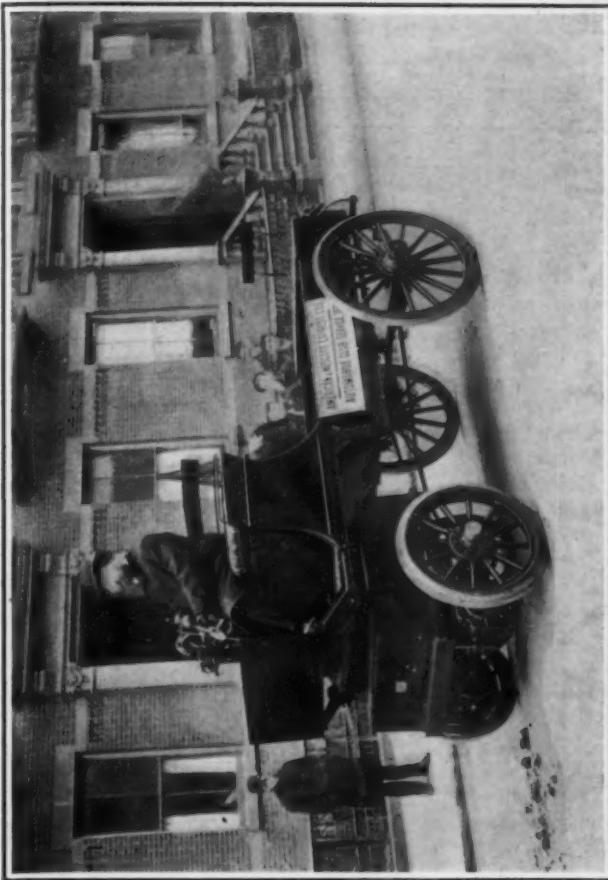
Carlson, 2,000 pound, Gasoline Delivery Wagon.



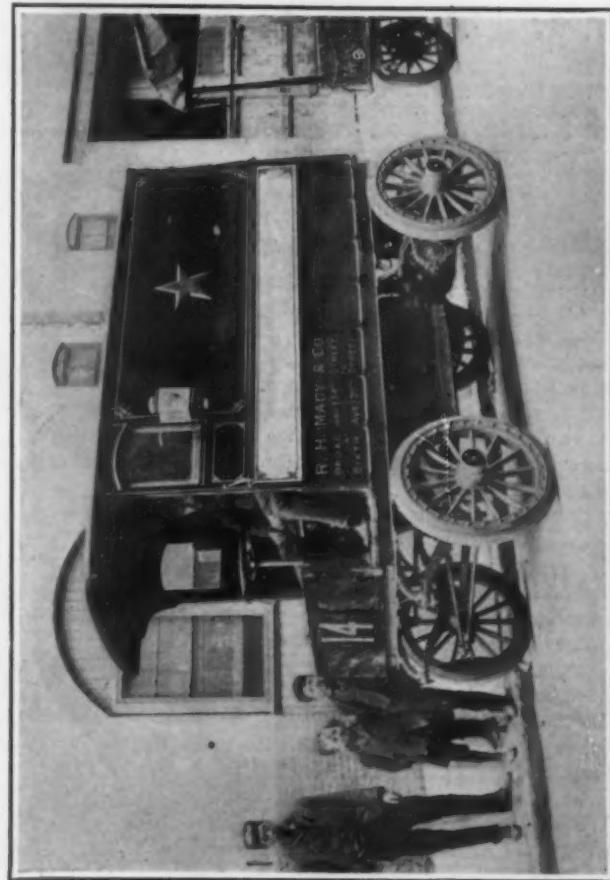
Rockwell, 2,000 pound, Gasoline Delivery Wagon.



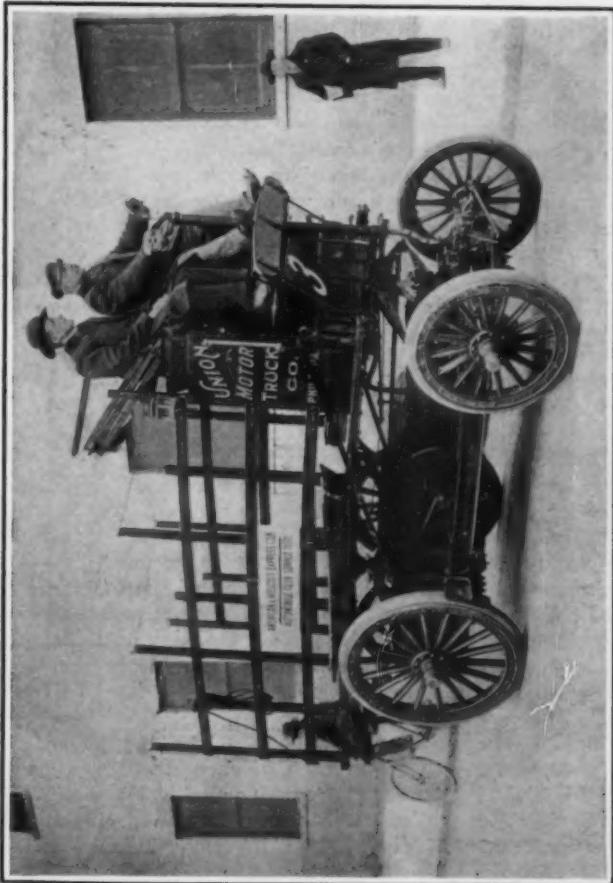
Knox, 700 pound, Gasoline Light Delivery Wagon.



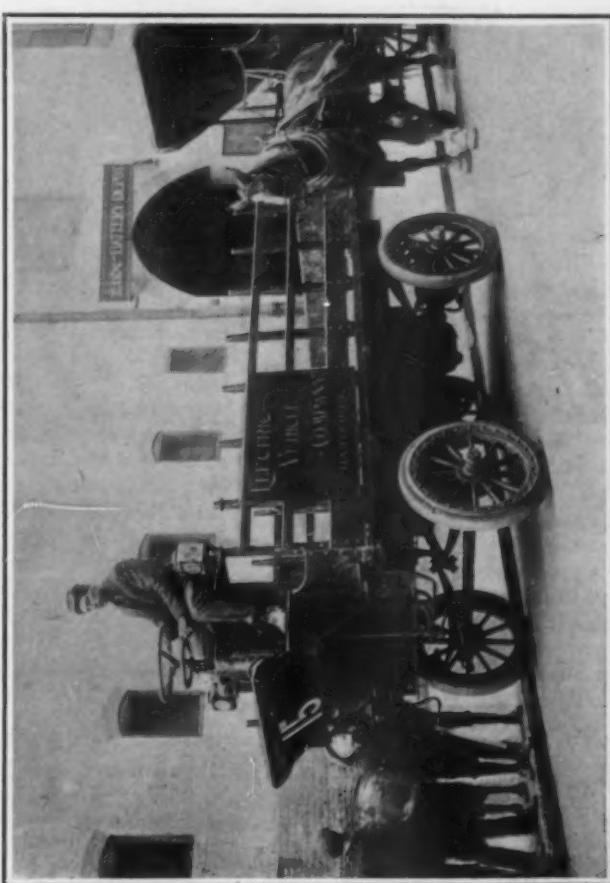
Centone four carriage, 1,500 pound, Electric Delivery Wagon.



Electric Vehicle Co.'s 3,000 pound Electric Delivery Wagon.



Union Motor, 4,000 pound, Gasoline Stake Truck.



Electric Vehicle Co.'s 5,000 pound Electric Truck.

SNAP SHOTS OF VARIOUS TYPES OF LIGHT DELIVERY WAGONS AND HEAVY TRUCKS PARTICIPATING IN THE AUTOMOBILE CLUB OF AMERICA'S SERVICE TEST OF MOTOR WAGONS.

Power Driven vs. Horse Drawn Vehicles.*

Difficulties of Economic Comparison—Details of Performances of Plante, Edison and Manchester Box Batteries—Costs of Edison Battery.

By HIRAM PERCY MAXIM.

(Continued from page 375)

RELIABLE data on the costs of horse service is extremely difficult to get at. Some services are based upon the strictest economy regardless of any other consideration, while others are based upon elegance of equipment, regardless of cost. Every stage between these two exists, and no two seem to be exactly comparable, especially in the cases of the smaller vehicles. On a purely mathematical basis, it is conceivable that it would be difficult to prove the electrically propelled vehicle as cheap (broadly speaking), as the horse-drawn vehicle. Practice, however, indicates that it is the case in large cities. In almost every instance, where electric vehicles have been substituted for horse vehicles, the service has been more satisfactory. Whether this satisfaction is derived from actual reduction in costs, greater convenience, or what, is impossible to say positively. We simply know that it is the case. In some places, it is claimed to be very much cheaper than horse service, while in other places, barring the erratic, it is claimed that it costs about the same, or possibly more, but is so much more satisfactory as to compensate. It is very probable that, as far as money-saving is concerned, in light department store wagons there would not be as great an advantage as in heavier trucking, since in the latter service we find continual instances where things become possible, which with horses were impossible. This, of course, entirely upsets any question of direct cost comparison.

EXCESSIVE COST OF UP-KEEP.

In the instances we have had of electric vehicles being condemned on the score of cost of up-keep, it has been almost universally due to extraordinary battery and tire expenses. Except in erratic cases, where gross ignorance and carelessness prevail, the responsibility we know to be in the inadequate batteries and tires furnished. Where these two items are of decent proportions there is no excuse for the cost of maintenance exceeding the figures which have been given. Indeed, there are cases where a little higher skill and intelligence than the average having been brought to bear on the vehicle maintenance expense per year has been very considerably below the figures given.

Now, to turn to the consideration of the relationship existing between the elements making up maintenance and the possible effect of improvements now under contemplation.

* A paper read before the Automobile Club of America in New York

It is evident from Table No. 1* that the larger share of the expense of maintaining a department store wagon, the one-ton size in the table, is due to battery, tire and depreciation items. The same is the case with the three-ton and five-ton trucks. The three items amount to, roughly, 70 per cent. of the total maintenance expense. It is plain, therefore, that future improvements should lie in the direction of these three conditions. From the details of the repairing of a battery, it is apparent that the cost of the new plates, the losses sustained on account of the breakages of rubber jars, and the labor involved in doing cleaning, are mainly responsible for the magnitude of the battery account. It is plain that if a battery could be obtained which would require less cleaning, or the plates of which would last longer, or the jars of which would not break, the maintenance expense would be greatly lessened. Developments along these lines are under way. We have two batteries at present being weighed in the balance for the determination of these factors. These are the battery of Mr. Edison, and one of the old type of Planté batteries, which has again come to the front for commercial vehicles when used in connection with a new negative plate.

DETAILS OF PLANTE BATTERY.

This latter is a lead battery of conventional form, but, owing to its construction, its active material sheds less rapidly than in the pasted types of battery used in existing vehicles. The plates, therefore, last longer. The battery costs the same, however, and it requires rubber jars the same as the existing battery so that the reduction it promises is in the frequency of renewal of the plates. The battery in the main is an old one, having the most creditable record of any storage battery that has ever been constructed.

In the case of the other battery, the Edison, it is not quite the same. The manufacturers claim that the plates need no renewing in the sense which we are considering. They tell us that the battery is indestructible, meaning of course, as apparatus generally is considered indestructible. Assuming that this is so, let us see what it would mean. The purchase of new plates would be avoided, the labor connected with cleaning would be avoided, and the losses due to broken rubber jars would be avoided. The Adams Express Company is operating at

* See Issue of April 2, page 375.

the present time four of these batteries in four of their electric wagons. They have been in service some four months to date, and there is every reason to believe that up to the present time all of the manufacturers' claims have been equalled. It must not be lost sight of, however, in considering this, that even one year's work in actual service has not yet been done, and that it is solely the manufacturers' claim and what we know we have a right to expect from the theory of the battery that form the basis from which we are reasoning. The battery is, theoretically, directly in the proper line of improvement, and regardless of anything else, is therefore worthy of our most careful consideration.

PERFORMANCE OF EDISON BATTERY.

In calculating the probable performance of this battery, in order to compare it with existing batteries, we find there are two features in which the battery suffers. These are its high price, and the consequent elevating of the interest charges against it, and the large amount of charging energy which is lost in recharging and which elevates the charging current account against it.

On the score of price, the status of a wagon fitted with this battery may be judged when we say that if given the same watt-hour capacity, a 1-ton wagon which now sells at \$2,500 would have to sell at \$3,005. A 3-ton wagon, the average price of which is \$3,700, would have to sell at \$4,222, while a 5-ton truck, the normal price of which is \$4,000, would have to sell at \$4,820. The interest account upon these higher figures, of course, increases the cost per vehicle mile and per ton mile. This will be taken up later.

In this connection, should be mentioned the question of weight saving. Obviously, if the battery weighed enough less than corresponding existing batteries, it would be possible to reduce costs in the vehicle. For example, if enough weight were saved we might use the next smaller size tire, axles, wheels and springs. As a matter of fact, however, the actual saving is not enough to make this practical. In a 1-ton capacity wagon, the saving in battery weight would only be 375 pounds, not enough to warrant any reduction in tire or axle dimensions. In the 3-ton wagon, the saving would be 650 pounds, while in the 5-ton it would be 740 pounds. None of these would amount to as much as the variations in load which have to be provided for, so that it does not seem reasonable for us to count upon any reduction in the vehicle parts as the result of the use of this battery.

CURRENT REQUIRED BY EDISON BATTERY.

On the score of charging current, the data available from actual service has been taken. Laboratory data in profusion is of course available, but it is desired to confine these figures to those taken from

actual practice. As far as can be judged in the vehicles in use, we should expect them to require about 66 per cent. more energy to charge them than it requires to charge vehicles with existing lead batteries. In a 1-ton wagon, this means \$204 per annum instead of \$122.70. In a 3-ton wagon it means \$295 instead of \$177.12, while in a 5-ton truck it means \$310 instead of \$186.60.

On the score of depreciation of the battery, an arbitrary figure must be assumed since there is nothing positive known on the subject as far as service conditions go, and the entire matter must be taken upon a basis of the claims of the manufacturer. As indestructibility is claimed, the battery has been classed with the rest of the vehicle which is indestructible in the same sense, and 10 per cent. per annum taken off.

There is a point in this connection which should be borne in mind. This is, that on the basis of a ten-years' life with the Edison battery, the entire vehicle, battery and all, would be done for at the end of the ten years, whereas, in the case of the existing battery, and our basis of calculation, the battery itself would be in a good state of repair at the end of the ten years even though its vehicle were entirely done for. This variation is, however, not much more than are several others which cannot be avoided in trying to strike an average of widely varying figures, so it is neglected.

REPAIRS OF EDISON BATTERY.

On the score of repairs of the Edison battery, it would seem to be fair to expect more repairs upon it than there would be on the vehicle alone. In the case of the vehicle, the user has had the benefit of long experience as to its serviceability, while in the case of the battery he has had but very little. The vehicle repair figure seems to be something about 4 per cent. on the price of the apparatus. It would not seem unfair to take 6 per cent. for the battery. Six per cent. on \$990, the price of an Edison battery of equal capacity to the existing battery in a 1-ton wagon, would be \$59.40 per annum.

Now to compare the performance of vehicles fitted with Edison batteries and

TABLE No. 2.

RELATION BETWEEN ELEMENTS OF COST OF MAINTENANCE, WAGONS FITTED WITH EDISON BATTERIES.

	1-ton wagon.	3-ton wagon.	5-ton wagon.			
Elements.	Veh. mile.	Per cent.	Veh. mile.	Per cent.	Veh. mile.	Per cent.
Battery, Dep. and repair.	1.84	16.7	3.24	15.8	4.36	16.0
Tires	2.00	19.0	4.37	21.3	6.05	22.0
Depreciation	2.12	19.3	3.86	18.8	4.84	18.0
Interest	1.74	15.8	3.20	15.6	4.18	15.0
Chg. Current	2.36	21.4	4.26	20.8	5.39	20.0
Repairs85	7.8	1.54	7.7	1.93	7.0
Total	11.00c. per veh. mile.	20.47c. per veh. mile.	26.75c. per veh. mile.			
				10.23c. per ton mile.		
					7.64c. per ton mile.	

the performance when fitted with Exide batteries. Tire maintenance, vehicle repairs, and vehicle depreciation would be unchanged. In Table No. 2 the figures corresponding to the Table No. 1 show the relationship.

A comparison between these two tables indicates at once a marked change in the relationship between the different elements of maintenance expense. The totals indicate a net gain per ton mile for the Edison battery amounting to quite a considerable sum, assuming that the generous assumptions we have made for it are anywhere near the truth. The gain would, of course, be much higher than it is, were it not for the higher price and the greater amount of charging current necessary. In the 1-ton wagon, this gain is 13 per cent., while in the 3-ton wagon it is 12 per cent., and on the 5-ton truck 12 1/2 per cent.

MANCHESTER BOX STORAGE BATTERY.

In considering this gain, the question of the other battery referred to comes up. This battery is known as the Manchester-box type. It has a strictly Planté positive plate, and what is called a box negative plate, and represents a type of battery which is standard in stationary work. It is made by the same makers as make the Exide battery, the Electric Storage Battery Company of Philadelphia. It is unquestionably the longest lived and most rugged lead storage battery in existence.

Before the advent of the present form of pasted plate, it was the standard for automobile work. Having a greater weight per unit of capacity, however, than the pasted, it eventually became superseded for pleasure work, and when the commercial wagon came along it was inherited by it. It is now up for consideration again, since the fact has come to be generally understood that a little more battery weight in a business wagon is not as important a question as battery repair expense.

PERFORMANCE OF MANCHESTER BATTERY.

From records in existence of the performance of this battery, maintenance expenses have been worked out in the same manner as those of the Exide and the Edison battery. The important details are as follows:

The number of days' work which the positive plates would be good for would be somewhere about 400. We have taken the Exide as 288, it will be remembered. The number of days' work from the new negative plates is doubtful, but from such records as we have, it is probable that a proportionately greater life for the new negative over the existing Exide negative would follow, as between the life of the Manchester positive and the Exide positive.

Four hundred days for the positives mean 12,000 miles. The yearly mileage being 8,640, the positives would last considerably over a year. The cleanings of

the battery would probably be about as follows:

The 1st after 130 days' work or 3,900 miles.	
The 2d after 120 days' work or 3,600 miles.	
The 3d after 90 days' work or 2,700 miles.	
The 4th after 60 days' work or 1,800 miles.	

This means an average of 2.88 cleanings per year which of course materially reduces the labor, supplies, breakage of separators, and rubber jar charges. The maintenance of this battery would probably be something in the vicinity of the following for a 1-ton wagon:

New positive plates \$89.00 Existing Exide is \$155.00	
New negative plates 48.30 Existing Exide is 84.00	
New wood separators	18.85 Existing Exide is 26.10
Rubber separators broken in handling	4.72 Existing Exide is 4.55
Rubber jars broken in service and handling	21.70 Existing Exide is 21.70
Labor	38.90 Existing Exide is 65.00
Supplies	37.20 Existing Exide is 48.50

Total per annum \$258.67 Existing Exide is \$404.85

This brings the vehicle mile to 3 cents when the Exide is 4.68 cents. In the case of the 3-ton wagon the details would probably be something as follows:

New positive plates \$124.00 Existing Exide is \$217.00	
New negative plates 67.50 Existing Exide is 117.50	
New wood separators	26.40 Existing Exide is 36.60
Rubber separators broken in handling	6.60 Existing Exide is 6.37
Rubber jars broken in service and handling	32.80 Existing Exide is 32.80
Labor	53.40 Existing Exide is 92.50
Supplies	52.00 Existing Exide is 67.80

Total per annum \$362.70 Existing Exide is \$570.57

This brings the battery maintenance charge to run the vehicle a mile, 5.25 cents where the Exide is 8.25 cents. In the case of the 5-ton truck the figures would probably be very close to the following:

New positive plates \$140.00 Existing Exide is \$244.00	
New negative plates 76.00 Existing Exide is 132.00	
New wood separators	29.70 Existing Exide is 41.00
Rubber Separators broken in handling	7.40 Existing Exide is 7.15
Rubber jars broken in service and handling	35.00 Existing Exide is 35.00
Labor	59.50 Existing Exide is 102.00
Supplies	57.50 Existing Exide is 75.00

Total per annum \$405.10 Existing Exide is \$636.18

This brings the battery maintenance charge for a vehicle mile to 7 cents, where the Exide is 11.05 cents.

WEIGHT OF MANCHESTER BATTERY.

The weight of this battery would be approximately 30 per cent greater than the weight of the existing Exide battery, the same watt-hour capacity being assumed. This increase does not amount to much increase in the total weight of the vehicle with load, as will be seen from the following:

The 13 plate MV cells in a 1-ton wagon weigh 1,640 pounds. The entire vehicle weighs 5,200 pounds. Loaded, this becomes 7,200 pounds. The cells are then 22.8 per

cent. of this total weight. When the new Manchester type of battery is used, the battery weight would be increased about 490 pounds, which is just 6.9 per cent. increase in the total weight, which, for instance, the tires, axles and springs must bear. It of course amounts to something, but it is not enough to make it necessary to use the next larger size of axles or tires. In the larger trucks, it is much less than this, being but 3.7 per cent. increase in the total weight of the 5-ton truck, loaded.

The price of the battery is the same per watt-hour capacity, so that all other charges in the maintenance of the vehicle will remain the same as in the existing Exide battery, except the charging current, which is but a negligible amount greater, due to the slight increase in the total weight of the vehicle.

Arranged in the same manner as in the other tables, the relation between the different elements of maintenance expense appears as is shown in Table 3.

TABLE No. 3.

RELATION BETWEEN ELEMENTS OF COST OF MAINTENANCE, WAGONS FITTED WITH

MANCHESTER BOX BATTERY.

	1-ton wagon.	2-ton wagon.	5-ton wagon.			
Veh.	Per Veh.	Per Veh.	Per Veh.			
Elements.	mile.	cent.	mile.	cent.	mile.	cent.
Battery	3.00	27.4	5.25	25.9	7.03	26.5
Tire	2.09	19.1	4.3	21.6	6.05	22.9
Depreciation	2.12	19.4	3.86	19.0	4.84	18.1
Interest	1.45	13.3	2.67	13.2	3.46	13.1
Chg. Current	1.42	13.0	2.57	12.7	3.24	12.2
Repairs85	7.8	1.54	7.6	1.93	7.2
Total	10.93c. per veh. mile.	20.36c. per veh. mile.	26.55c. per veh. mile.	10.18c. per ton mile.	7.44c. per ton mile.	

From this table we see that the net gain effected is practically identical with that of the Edison battery. For instance, in a 2,000-pound wagon, it will cost for maintenance, as far as we are able to estimate, on a generous assumption for the battery, 11 cents to run a vehicle a mile; while, with a Manchester box battery, it will cost 10.93 cents. In a 3-ton wagon, it would be 10.23 cents to haul a ton a mile as against 10.18 cents with the Manchester. In the 5-ton truck it would be 7.64 cents to haul a ton a mile with the Edison battery as against 7.40 cents in the Manchester. This is very different from what is popularly supposed to be the case.

It suggests many very important possibilities. It must, however, be remembered that it is largely assumption since we have no actual service wagon records to go back to in the case of the Edison battery, and only of the positive plates in the case of the Manchester battery.

THE course of the Gordon Bennett cup race near Homburg, Germany, will be opened for trials of the cars entered in the international race for one month preceding the event on June 17, according to reports received here. Traffic will be kept off the course probably for three or four hours each day, during which every precaution will be taken to prevent accidents.

Renard Automobile Road Trains

Special Correspondence.

PARIS, March 18.—Few automobile inventions in recent days have created more general interest here than the Renard road trains, especially since the exhibition of the train by Colonel Renard at the late show. Trains of this type have been in constant use here since last December and have proven perfectly satisfactory, and I believe under the circumstances a description of the system in detail will be of interest.

The transportation of goods by the ordinary power-driven trucks has proved rather expensive for long distances, where a large quantity of freight has to be carried between two different points, since it requires a complete power generating and



SKETCH SHOWING FORCES ACTING ON TRAINS.

transmitting plant on each wagon and at least one man for every vehicle, the platform capacity of which is very limited. In the other method of trains composed of an independent traction engine towing ordinary wagons, a very heavy weight is required for the traction engine to give its wheels the necessary adherence to pull the

the ends of which would be the ends of the train. The accompanying sketch shows this plainly.

Supposing three vehicles, *a*, *b* and *c*, forming a train and taking a curve as shown by the arrow *AA*, *a* being the traction engine and *b* and *c* plain four-wheeled vehicles drawn by *a*, the vehicle *b* will be acted upon by two forces operating one at each end. The first *f* is the result of the tractive effort of *a*, and the second *d* is the result of the resistance of *c* to the pull transmitted from *a* through *b*. These two forces acting at an angle may be replaced by a single force *r* tending to pull *b* sidewise and also to bring the fore part of *c* in a direction *k* and the rear end of *a* in a direction *s* until the three vehicles would be on a straight line at which time the two forces *f* and *d* being directly opposed there would be no resultant in the direction *r*. This combination of efforts, disturbing the regular motion of the train, is felt on every one of the vehicles and increases with the pull exerted by the traction engine, and with the angle of the curve as the sketch plainly shows. These efforts are also most destructive on the vehicles themselves on account of the side strains which they cause on the wheels and of their tendency to upset the cars.

To avoid these troubles, Colonel Renard

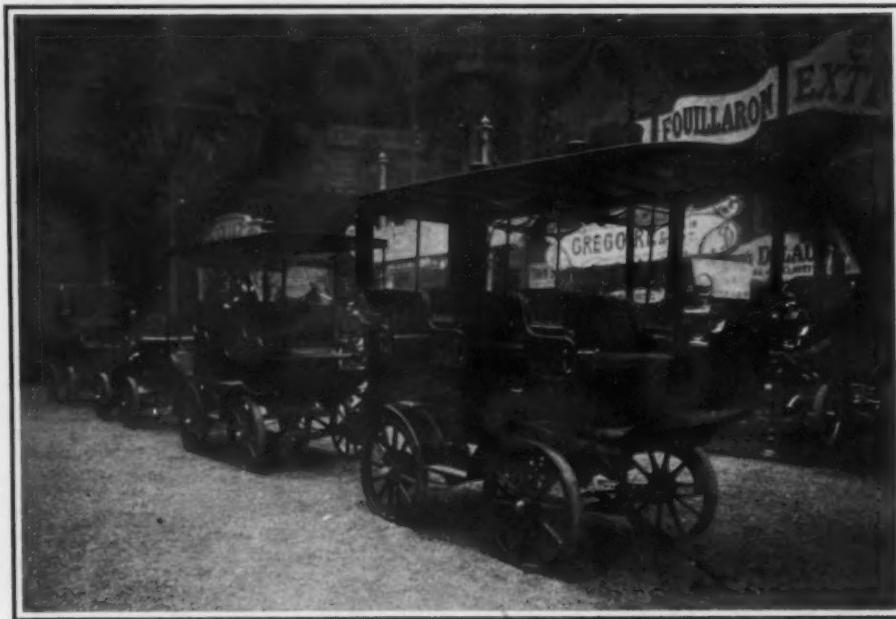


EXHIBIT OF THE RENARD AUTOMOBILE ROAD TRAIN AT THE LATE PARIS AUTO SHOW.

load. Besides, in a road train in which the vehicles are towed by a traction engine, while no trouble is experienced when the road is perfectly straight, it is impossible to negotiate turns below a certain radius, which increases with the length of the train. It is obvious that the train will not follow the tracks of the traction engine, but will tend to come into a straight line,

endeavored to suppress all tractive effort from one vehicle to the other, and also to make every vehicle self-steering, so that the most intricate and sharpest turns could be managed.

The first solution that comes to one's mind is the one used in a different way on electric railroads. It would be to place in some one of the cars a storage battery or a

generator of electricity worked by a steam or an internal combustion engine, the current being afterwards distributed to each one of the vehicles, and utilized in driving electric motors geared to the road wheels in the usual way. This solution, however, although theoretically perfect, would be a very expensive one, more expensive in fact than the use of individual trucks.

To solve the problem Colonel Renard uses a high-powered gasoline machine, suitably geared to obtain sufficiently low speeds. Besides the ordinary drive, the driving system of the leading car carries a long longitudinal shaft, ending in an universal joint *J*. This is connected by means of a short shaft to a similar joint at the front end of a longitudinal shaft running the entire length of the second vehicle, and which is also terminated like the original tractor's. This shaft trans-

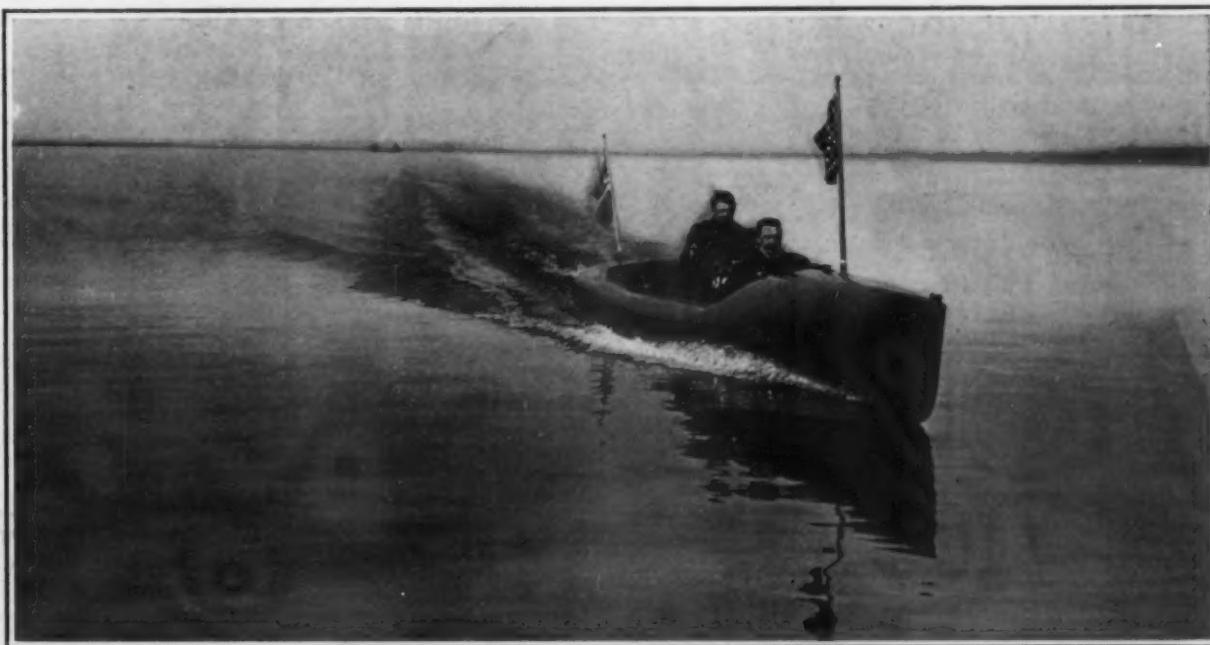
quantities: the distance between the two axles, and the distance from each axle to the point between the two cars. These are fixed quantities determined once for all, and are figured so closely that in a train of eight to ten vehicles, taking the most difficult curves the distance between the track of the tractor's wheels and those of the rear wagon, is always less than one foot. This illustrates plainly that with such a connection accurately figured curves can be taken on the roughest roads in the most unfavorable conditions, with almost the same precision as if the train was mounted on rails.

Last of all, it may be noted that the steering system applies as well to a fifth-wheel type of front axle—such as is used in the horse-drawn wagon—as it does to a regular steering device by fixed axle and knuckles as used in automobile construction. Also each vehicle being steered by the

F.I.A.T. Boat Under Speed.

The F. I. A. T. speed launch that was exhibited at the Sportsman's Show in Madison Square Garden last February, was put in the water of Newark Bay last week and given a test over a measured course. She developed high speed, but was not officially timed, although Messrs. Hollander and Tangeman, who handled her, held a watch while she covered the course. The illustration shows the boat moving rapidly, Mr. Hollander at the wheel and Mr. Tangeman at the engine.

The slight disturbance of the water as the boat moves through it seems to indicate that the lines of the hull are fine, and that there is little settling of the stern when under speed. It is an American hull, built by the Electric Launch Company, of Bayonne, N. J., but is fitted with a 24-30-horsepower F. I. A. T. automobile engine



INSTANTANEOUS PHOTOGRAPH OF THE "F. I. A. T." AT TOP SPEED, TAKEN FROM OFF THE STARBOARD BOW.

mitting a part of the driving-power to the wheels of the second vehicle, the end of this shaft is connected in the same way to a similar shaft on the third vehicle, and so on. Consequently, it will be easily seen that no pull whatever is required to propel the entire chain of vehicles, since each one absorbs from the shaft the power necessary to drive itself by its own wheels, the cause of side slip mentioned before is thus completely eliminated. Besides, the driving action being individual for each car there is not on the wheels of the leading car or tractor any other effort than that required to drive the tractor itself. The steering of each vehicle individually is effected by the position which the rear axle of the preceding car takes in relation to the front axle of the car considered while turning a curve.

This relation is determined by three

vehicle immediately in front and no other, the train can take the form of an S to follow the most "twisty" roads, the tractor running in a direction absolutely opposed to that of the last car, and notwithstanding every car will run on the track made by the first one of the train.

The name of tractor given to the vehicle containing the engine is really not correct since it is simply a power-producing plant, and could be placed just as well at the rear end of the train as at the front, the latter situation being preferred, however, since it permits a single man to attend to both the engine and the steering, this being theoretically all there is to be done to drive such a train.

MANY Denver and Colorado Springs men and women of means have taken to touring the mountains of Colorado in autos.

imported from Italy. The overall length of the launch is thirty-five feet. She has a turtle-back deck at the bow and two cockpits. This, or a similar boat now under construction, will be matched against Smith & Mabley's new auto boat for a \$2,000 trophy.

A DESPATCH from Savannah, Ga., announces that a straightaway speedway, six miles in length, with a slightly crowned cement gravel surface rolled hard will be opened to automobile contests and speed trials next winter. The course lies through pine barrens over a flat and sandy soil, so that the road will have no grades and there will be no intersecting highways. At one end of the course it is reported there will be a loop half a mile in circumference which may be taken at full speed by the cars. More than two miles of this speedway have already been finished.

New De Dion Ignition.

A novel ignition apparatus brought out by the well-known French automobile engineers, De Dion and Bouton, after having been kept secret for a long time, has recently been described in the French press.

The description of the apparatus, given herewith, is a translation of that published in *La Vie Automobile*.

This arrangement for producing ignition current for explosion motors possesses two characteristic features. The combination of an automatic trembler, used or not at will with the ordinary cam contact breaker, and the arrangement of the secondary circuit so that misfires caused by sootying of the spark plug do not occur.

Devices without tremblers are suitable for high speed engines, but are rather troublesome at low engine speeds, especially at starting. On the other hand, trembler coils operate satisfactorily with moderate speeds, but do not do so well at high speeds, since there is not necessarily coincidence in the time of contact at the cam with that of the vibration of the trembler, from which accordingly there results irregular sparking.

The drawings herewith represent: Fig. 1, a general sketch of the connections of the system, and Figs. 2 and 3 front and side views of the device.

The source of current is a primary or storage battery as shown in Fig. 1 at *a*, or it may be a magneto or dynamo. Ordinarily, one of the terminals is grounded at *M*. The second is connected to one extremity of the primary circuit *b* by means of the interrupter *c*. The other end of the primary circuit is connected to the center contact of a three-way commutator *d*. By means of the first contact of this commutator, current is sent to the automatic trembler *e* and the cam contact breaker *f*, the return to the battery or source of current being through the ground *M*.

The second is a neutral, or dead contact. The third sends current to the cam contact

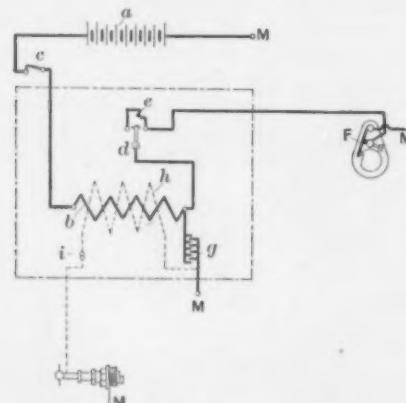


FIG. 1.

breaker in the usual way without going through the trembler.

At *g* is a condenser constantly in the primary circuit no matter in what position

the commutator is, the well-known function of this being to absorb the "extra current."

The secondary circuit *h* has a gap at *i* which the current has to jump in the form

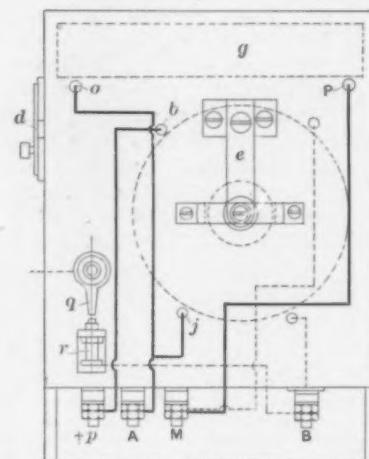


FIG. 2.

of a spark. In this manner short circuits are avoided, and the spark will always pass between the two points, no matter how great the sootying is.

Figs. 2 and 3 show how the wiring (shown diagrammatically in the general sketch) is arranged in practice in the case. The current enters through the connection *+p*, the connection to primary winding being at *b*. It passes from *j*, through *A* to the switch *k*, the contacts *m* and *n* of which are respectively connected to the automatic vibrator *e* and the cam contact breaker *f*. One condenser connection is taken from *o*, at the end of the primary winding, it being grounded through the binding post *M*.

The secondary circuit is grounded at *M*, and connected at *b* with the spark gap *q*. The spark gap device is made of two metallic parts, the distance between which can be regulated by the screw *r*.

For starting, the switch is placed in the position *dm*; the primary circuit will then be through the automatic vibrator and the cam contact breaker. Under this condition, the system behaves like one having an ordinary automatic trembler coil and the engine can be started by turning the crank slowly.

After the motor has come to speed, the switch is turned to the position *dn*, upon which a spark will occur at every vibration of the cam contact breaker, the operation of the system being similar to that of a plain coil without a vibrator. It is evident that when only a slow speed is required of the motor, as, for example, when the car is at a standstill, the automatic vibrator can be used with advantage.

It may be well to add to the foregoing translation a few words of explanation:

With an engine fitted with a trembler coil, and a wiping contact brush on the ignition cam, the slower the speed of the motor,

the longer the contact, and consequently the action of the coil.

As long as the speed of the motor is reasonably low a flow of sparks at the plug will thus be obtained which hardly ever fails to ignite the mixture, but with a cam speed of 600 revolutions per minute corresponding to an engine speed of 1,200 revolutions, the time of contact of the brush with the cam will be less than the hundredth part of a second. With vibrators of the usual hammer type, the speed is never over 160 to 180 vibrations per second, causing from 80 to 90 sparks. It is evident, therefore, that it is impossible to get ignition from this system at such a speed, since the cam calls for 10 sparks per second to be produced each 1-100th to 1-120th of a second, according to the design, while a trembler cannot supply a spark in less than 1-180th to 1-190th of a second. This lack of accord in the timing will change the spark advance, and will sometimes allow complete cycles to be run without ignition. Thus, although very satisfactory for slow speeds, this system is not satisfactory for high speeds.

Now, considering the case of a spark obtained by means of a cam contact breaker, there would be required for the same piston speed 10 sparks or 10 vibrations in each direction from an apparatus able to give 80 or 90; in this way a positive ignition at speeds above about 500 revolutions per minute could be obtained. For lower speeds, the contact breaker gives two sparks, and on account of the low rate of vibration the sparks will be weak and "cold." The slow speed will also cause an appreciable time to elapse between the two sparks, thus causing inaccurate timing of the ignition.

FOLLOWING the statement that he intends to visit America to break records on the Ormond Beach and also to take part in the St. Louis run, comes the announcement

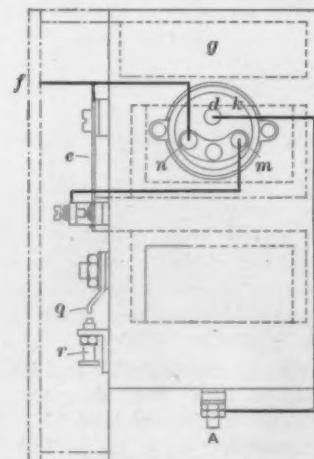


FIG. 3.

from S. F. Edge of England that he wants to race his Napier-Minot auto boat against the craft owned by Frank Croker and Hollander & Tangeman.

Auto Boats at Monaco.

Automobile boat contests at Monaco commenced last Monday, and from advance reports a splendid program of racing events was doubtless witnessed by the fashionable throngs that it was expected would crowd the fashionable Mediterranean resort. The races are held in connection with an international exhibition of power boats in a building situated at a convenient distance from the waterside. A huge traveling crane had been provided for handling the boats, so that they could be carried to and from the waters of the bay, and in this way a boat which had shown speed qualities in the water could be inspected minutely in the exhibition after the event.

The races were organized by the International Sporting Club of Monaco, and a number of valuable prizes were offered, including a cup valued at \$1,000, donated by Prince Albert of Monaco, to be awarded the winner of the knot and kilometre speed contests.

It is not improbable that the Monaco boating week may become an annual institution.

SOME interesting facts in regard to the use of a rotary shield magneto for the ignition of a four-cylinder motor were recently pointed out by M. Turcat, of

given speed of the engine as with a cooler spark. If instead, therefore, of varying the spark advance, the heat of the spark is made to vary with the speed of the motor, the same result is obtained. He found from practice, he said, that 25 degrees advance of the spark with the magneto would give a motor speed for



AUTO BOAT "PRINCESSE ELIZABETH" AT MONACO, BUILT BY TELLIER.



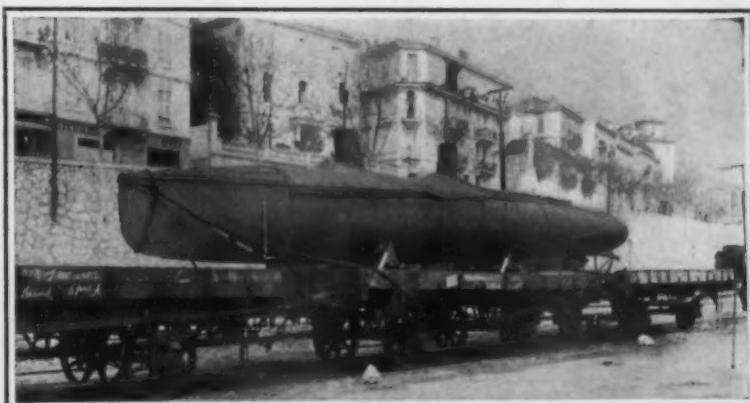
FAMOUS FRENCH AUTO BOAT "LUTECE" CONSTRUCTED BY TELLIER AND FITTED WITH 80-HORSEPOWER PANHARD MOTOR.

This exposition and series of races are the most important of any yet held in Europe in the sport of automobile boating. As is the case here, the growth of this sport has been very rapid abroad, the first races of importance being those held on the Seine from Paris to the sea last fall.

France, in commenting upon a paper read by M. Brazier before the Automobile Congress in Paris. M. Turcat stated that if the heat of the spark is increased it will cause quicker ignition of the cylinder charges, and it will not be necessary to advance the period of ignition so far for a

which 90 degrees advance would be necessary if using accumulators. He found that no difficulty is experienced when using a magneto in starting if the sparking cam is placed at such a point that the "break" occurs when the magneto gives its maximum voltage. He thinks, therefore, that by the use of the magneto it may be possible to simplify or eliminate altogether the device for advancing the period of ignition, because with the magneto the advance is to a great extent automatic.

HAROLD BROWN, of Boston, has bought the *Dolphin II* from the Standard Motor Construction Company and will race the craft this season in the early summer races around New York, and then take her to Boston for speed trials. Mr. Brown will take possession of the auto boat at New York in April, and has entered her in the New York Yacht Club races at Glen Cove, L. I., and in the Hudson River races for speed boats of her class. He will take her to Boston by water, he says, and thinks she will be capable of making the trip.



AUTO BOAT IN TRANSIT OVER FRENCH RAILROADS EN ROUTE TO MONACO

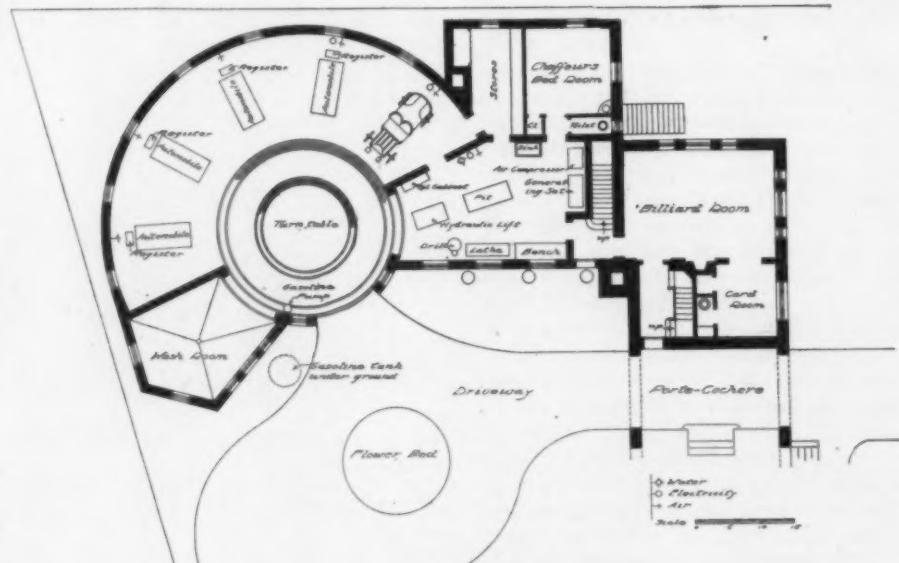
Novel Stable Planned for a New Enthusiast.

Special Correspondence.

MINNEAPOLIS, April 2.—For one who never owned an automobile until this year and who never was a horse fancier, George H. Partridge, of the wholesale drygoods firm of Wyman, Partridge & Co., of this city, is about to plunge into automobiling in a way that is causing some of the older enthusiasts considerable surprise. His plans have become public through the preparation by a firm of local architects of plans and specifications for a fine private garage embracing a number of new and unique features that is to be erected at the rear of Mr. Partridge's fashionable residence which stands at the corner of Hennepin avenue and Groveland, in what is known as the Lowry Hill district, this city. These plans call for a structure that will provide superior accommodation and facilities for the care of five or six motor cars.

Mr. Partridge's house stands on an irregular lot and the owner now considers it fortunate that when he erected his mansion a few years ago he made no provision for the stabling of horses and carriages. When he called upon the architects, Kees & Colburn, to provide suitable housing for so many machines on the small and irregular plot at his disposal the problem that confronted them was to supply plans for caring for them in the most convenient way in the smallest possible space. A study of the accompanying drawings will show how this has been worked out.

The storage section of the building will be erected in the shape of a railroad roundhouse which seems to be more suitable for a garage, since an automobile is practically a road locomotive. The approach will be from two streets. A turntable will be



PLAN VIEW OF AUTO GARAGE FOR GEORGE H. PARTRIDGE OF MINNEAPOLIS.

located at a central point so that the machines can be run into any of the several stands or into washroom and repair shop. The floor of the automobile room will be of cement tile with ornamental borders and the wall will have an enameled brick wainscoting four feet high with pressed brick above. The ceiling will be of Georgia Pine planed panels. There will be a counter-sunk Swanton marble slab under each machine for catching the oil drippings, and the end of each stand on the floor will be a register connected with an underground duct carried to a main flue for carrying off gasoline vapor in case of leakage.

The floor of the wash-house will be of glazed vitrified tile and the wall will be wainscoted five feet high with glazed brick. The repair shop will have a cement floor with a pit and brick walls and will be pro-

vided with an electric generator furnishing current for an air compressor, electric lathe and a drill press. There will also be a hydraulic lift for handling the batteries of electric automobiles.

The store room will be equipped with automobile parts, blankets, and livery. There will be hose connections for inflating tires, plugs for electrical charging, and water faucets, all conveniently located. The gasoline storage tank will be outside of the building with pump inside of the garage.

The accommodation will be for five automobiles in the storage room, but if necessary an extra machine can be stored in the wash room. The intention is to have three gasoline and two electric vehicles. The second floor will be used as sleeping rooms for the chauffeurs and helpers.

The exterior will be of Columbus pressed brick with terra cotta trimmings.

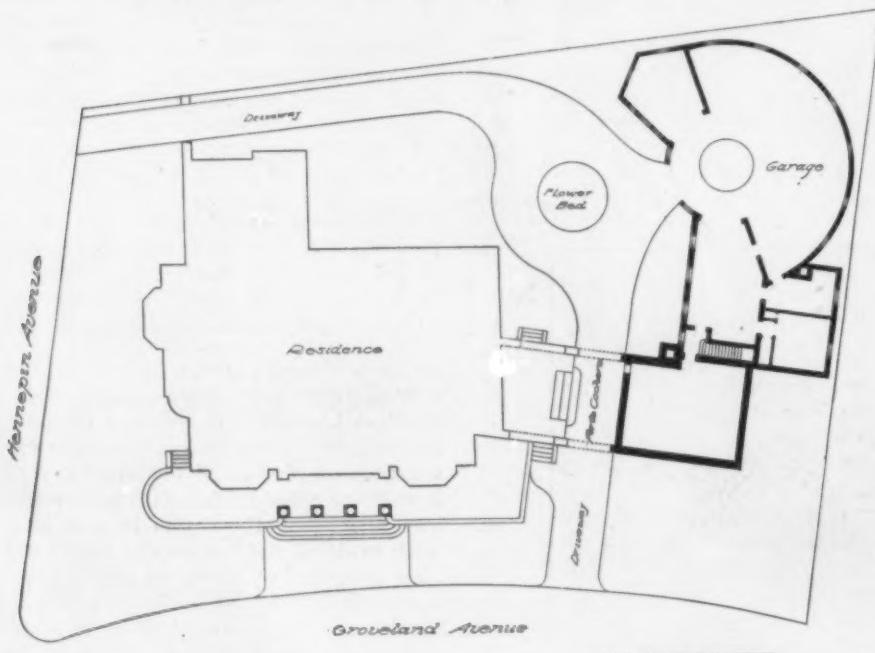
The plant, without the machinery and automobiles, will cost \$12,000.

Fred Kees, the senior member of the architect firm which prepared the plans, is a veteran cyclist who has now discarded the bicycle for the automobile, and is an active member of the Minneapolis Automobile Club.

A. C. A. MEETINGS.

The "Tuesday Talks" of the Automobile Club of America will end for the season next Tuesday night when there will be a smoker, supplemented with an entertainment provided by the House Committee, of which Emerson Brooks is chairman.

In a recent decision in a suit of the City of Erie, Pa., *vs.* F. R. Densmore, *et. al.*, Judge Walling held that it is necessary to register automobiles, at a cost of \$2, which is good during the life of the machine, but that the requirement of a license of \$3 per year to operate a machine was too uncertain and he declined to enforce it or to sentence the defendant under it.



GROUND OWNED BY G. H. PARTRIDGE, SHOWING LOCATION OF RESIDENCE AND GARAGE.

Racing Rules for Autos and Boats.

European Methods for Classifying Racing Automobiles and Auto Boats Adopted by American Automobile Association.

The Racing Committee of the American Automobile Association took some radical action at its meeting in New York on Thursday, relative to the classification of automobiles. It voted that in future a classification of vehicles as enforced in Europe be in effect in America. The following are the new rules of classification, together with qualifying clauses:

CLASSES FOR VEHICLES.

RULE IX.

1. Cars weighing from 650 to 1,000 kilos (1,433 to 2,204.62 pounds).
2. Cars weighing from 400 to 650 kilos (881.84 to 1,433 pounds).
3. Cars weighing from 250 to 400 kilos (551.15 to 881.84 pounds).
4. Cars weighing from 50 to 250 kilos (110.23 to 551.55 pounds).

A kilo equals 2.02 pounds.

Vehicles in classes 1 and 2 shall carry at least two passengers side by side, of a minimum mean weight of 60 kilos per passenger; it is understood that in cases where the mean weight of the passengers does not reach 60 kilos, the deficiency must be made up by means of ballast.

The weight of the vehicles in the several classes shall always be computed in the empty state. By weight in the empty state is meant with no passengers nor stores (coal, petrol, water, accumulators), nor tools, nor spare parts, nor luggage, nor clothes, nor provisions.

Vehicles which draw the energy required for ignition from a device actuated by the motor shall benefit by an allowance of weight of 7 kilos. The weight of lamps, lampholders, and horns, is not comprised in the said weight of the vehicles.

By way of exception, in races on tracks and for record making, vehicles seating two persons will be allowed to be occupied by one person only, but the necessity for

two persons is indispensable in races on roads.

The Racing Board shall be judge as regards the admission of such other subdivisions which organizers of races may desire to make in the classes specified above.

MOTOR BOAT RULES.

Motor boat matters took up some of the time of the Racing Committee, and it was decided to take charge of the high-powered racing craft known as automobile boats, although not interfering with any other boat association. In attendance at the meeting were A. R. Pardington, W. K. Vanderbilt, Jr., E. T. Birdsall, William Wallace, A. L. Riker and S. M. Butler.

A. R. Pardington was appointed chairman of the boat committee with Lieutenant C. H. Hall, official measurer, and H. L. Towle, official engineer. Mr. Pardington appointed L. R. Adams one of his associates and will name two more. New rules submitted by the motor-boat committee were adopted. They require the registration of all automobile boats racing under A. A. A. rules and are very complete.

S. M. Butler was re-elected secretary of the Racing Board. Sanctions were granted to the Massachusetts Automobile Club for a hill-climbing contest on April 19, and for a race meet at the Readville track on May 30. The 1905 Florida meet was given a sanction to begin on January 17, while the application for a race meet at Virginia Beach was laid over.

Special Decauville Bodies.

Among the interesting new body designs that have made their appearance recently in this country are those shown in the engravings herewith. They are mounted on Decauville cars, imported by

the Standard Automobile Company. Both cars attracted attention at the Crystal Palace show in London, held last February. The bodies are by French and English body builders. The first is a double phaeton, mounted on a 12-16-horsepower chassis, and in addition to the folding victoria top, has a glass front to protect all the occupants from wind and dust, and provision for the addition of curtains for more complete protection in stormy weather. The wheelbase is extra long, affording room for a long running board on the side and ample door, giving easy entrance to the rear seat.

A car of this type was imported recently for Winston Churchill, of Boston, the well-known author, who has been an enthusiastic motorist for seven months, and is a member of the Massachusetts Automobile Club.

The other car has a coupé body also mounted on an extra long 12-16-horsepower Decauville chassis. The body has an ample side door, front windows, and is elegantly upholstered. The roof is carried forward in canopy form over the front seat to meet the top of the glass front.

Italian Driver Fogolin.

Among a number of men who will drive racing cars in competition this year for the first time in this country and who may be expected to show well to the front in the best events, is Claude Fogolin, an Italian, who arrived in New York on *La Touraine* last week and who has already won sufficient international reputation to merit his nomination as one of the drivers of the Italian cars entered for this year's Gordon Bennett race. Fogolin has been engaged by Hollander & Tangeman of New York to drive one of their F. I. A. T. cars in American contests and to act as superintendent of their garage.

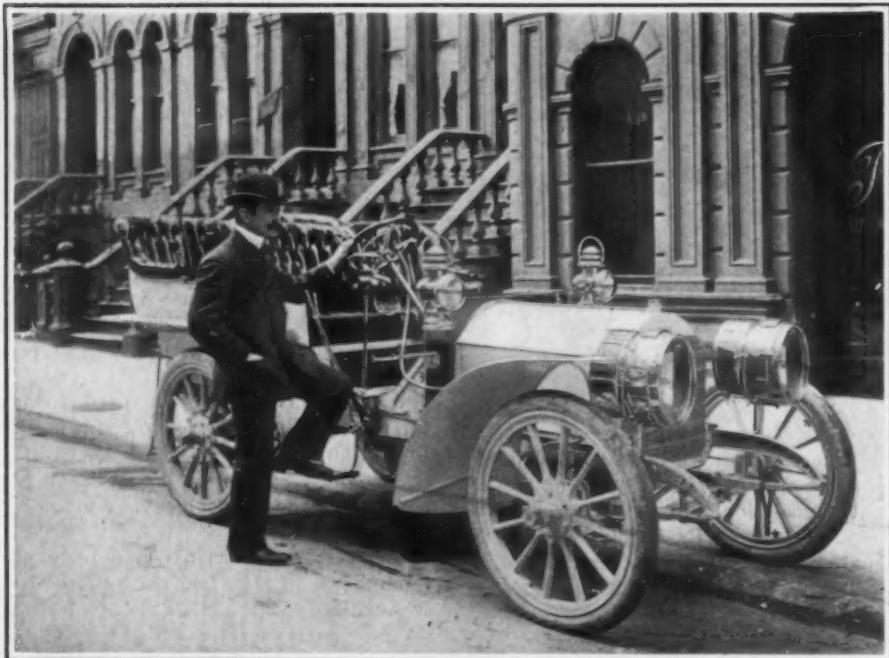
A shipment of 1904 model F. I. A. T. touring cars arrived also last week, and one of the 20-24 horsepower models is shown in the engraving on page 404. Fogolin standing beside it, an extra shipment of these



DECAUVILLE SIDE ENTRANCE DOUBLE PHAETON, WITH VICTORIA TOP.



DECAUVILLE 12-16 HORSEPOWER COUPE.



CLAUDE FOGOLIN STANDING BESIDE THE NEW F. I. A. T. CAR IN NEW YORK.

cars having been arranged for by Mr. Hollander during a hurried visit to the factory at Turin, from which he has just returned.

Several 60-horsepower cars of the same model as the three entered for the International race will arrive in New York in a few weeks. One of these will be taken by Fogolin to Ormond, where he will try for world's records at the time of the elimination trials of the American cup entries. Upon his return, if he has time, he will enter the Commonwealth hill-climbing contest in Boston on April 19. He will also ride in other important meets until he goes back to Europe temporarily to compete in the international race in Germany, after which he will return to take part in all the big fall tournaments in America. During his absence, Mola, another Italian driver in this country, will drive the F. I. A. T. racing cars.

The Napier Pullman Car.

Undoubtedly the Napier "Pullman" car, now to be seen at the Central Automobile Company's garage at Broadway and Fifty-third Street, New York City, and shown in the accompanying reproduction of a photograph, is one of the handsomest and best equipped limousine touring cars ever built. Nothing essential for the comfort of its occupants has been omitted. It won first honors at the Paris and London shows this year, and was a feature of the recent Boston show. It is a revelation to all observers of the possibility of magnificence in automobile construction.

It is driven by a 24-28-horsepower four-cylinder Napier motor, having a sliding gear transmission controlled by a single lever, and a double chain drive, and capable of propelling the vehicle at a maximum

speed of about thirty miles an hour. A feature of the machine is a pressed nickel-steel frame, a secondary frame of the usual type being also provided. The wheelbase is unusually long being 112 inches; the standard tread is used. The weight of the machine is about 3,300 pounds.

In front are seats for two; inside the green limousine body there are four individual revolving chairs, upholstered in red leather. Silk curtains are provided for the windows, which are of plate glass. The ceiling is handsomely frescoed, and the floor covered with a red plush carpet.

From each side two leaves unfold to form a table between the front and rear seats. Underneath the tables at the sides are sets of small drawers for cigars, cards, or whatever might be convenient to have at hand. In front is a rack for a writing desk. There is a dressing table provided with a mirror, watch and other conveniences. A flexible speaking tube communicates with the driver outside. Underneath the floor is a refrigerator and the tool box. On top is a luggage carrier with a capacity for two hampers.

It is lighted and heated by electricity furnished by storage batteries, which are kept charged by means of generators carried on the machine. They derive their power from the motor and keep the battery properly charged at all times, being automatically thrown into circuit when needed, as the machine speeds along its way.

Motor Pocket Book.

A handy little book of 387 pages by the well-known English authority on automobiling, Merwyn O'Gorman, has recently appeared. It is intended for the use of automobilists and motorcyclists. The subjects are arranged alphabetically in dictionary form. Opposite each main heading the corresponding French and German word is given, besides several additional tables of English terms with the corresponding ones in French and German for ready reference.

Diagrams of the arrangement of different types of vehicles are given together with illustrations of their important parts and of the mechanisms used in connection with them. Brief but comprehensive



LONDON BUILT NAPIER PULLMAN CAR NOW ON EXHIBITION IN NEW YORK.

explanations accompany them. The sections devoted to the more important features are lengthy enough to almost warrant being called "chapters," as, for example, those under the headings of "A Chat with a Non-Motorist," "Elements of a Car," "Learning," "Starting a Car (or a Motor Bicycle)," "Lubrication," "Brakes," "Tire Repairs," "Loss of Power," "Ignition," "Accumulators" and so on. The section on "Fault-Finding" is particularly good.

In addition to the matter relating purely to automobiles and motorcycles, much other general information of value is given, such as tables of the properties of materials, English and French measures, and mathematical formulas. Considerable space is devoted to European racing rules and legal matters, the latter, of course, applying to English law.

Considering the space available for the

construction and getting ideas for the courses. He announces that there will be two courses at least, and very probably three, the combination being designed to benefit all classes of automobile men, from those who work in the factories to those who run the machines for pleasure.

H. M. Coffin, an automobile man of experience, has been chosen instructor in the new course in automobile construction and operation. On April 11 he will begin a six-weeks' course of lectures and demonstrations, holding classes every Monday and Thursday night of each week. The first lecture will be a general introduction to the principles of the machines, including some automobile history, the lines of development of the industry and a discussion of the relative advantages of the two and four cycle engines. The second will take up the construction and operation of the gas engine, with explanations of

up the American and foreign motor cars of 1904 model, single and multiple cylinders, methods of operation and engine control with plan views of chassis. The sixth and last lecture will be made up of advice to the motor car driver on the location and remedy of possible troubles on the road. A few instructions on driving will be given, with suggestions as to the adjustment of bearings and the general care of the machine. The demonstrations each week will deal directly with the points brought out in the preceding lecture. Enough enthusiasm has already been shown to insure the local organization of a large and interested class.

A 200-H.P. Racer.

Probably the most powerful car which has yet been built is the 200-horsepower Bellamy racer, says a writer in *The Auto-*



BELLAMY 200-H.P. EIGHT-CYLINDER RACER, BUILT IN FRANCE FOR MISS HOCKENFUEHL, AN AMERICAN.

treatment of each subject, the ground has been surprisingly well covered. The work is creditable in every respect, and is to be recommended. The size of the book is 4 1-2 inches by 6 1-2 inches. It is handsomely bound in red leather, and contains 144 illustrations. The price is \$3. It is published by E. P. Dutton & Co., New York.

THOROUGH AUTO COURSE PLANNED.

Special Correspondence.

DETROIT, April 4.—The announcement that the Detroit Y. M. C. A. will take up the study of the automobile as part of its educational course was hailed with interest by local automobileists. April 11 has been set as the date for the opening of the course.

Educational Director William B. Van Aiken, who will have this work in charge, recently returned from the East, where he has been looking into methods of in-

points of design, cylinder valves, port areas, piston and piston rings, crankshaft, flywheel and bearings. Horsepower determinations, temperatures and pressures and the four periods of the Otto cycle will also be fully illustrated. The third lecture will deal with carburetors and igniters, illustrated with lantern slides. High and low tension and hot tube ignition, and wiring with diagrams for single and multiple cylinders will be treated fully. In the fourth lecture attention will be given to the change speed and running gear, planetary, clash and sliding gears, belt and transmission devices, together with single and double chain drives and bevel gear. The equalizing system, laws governing brakes, springs and types of frame construction, wheel bearings and steering gear will also be discussed.

One of the most interesting lectures of the course will be the fifth, which will take

motor Journal. It has been built for an American, Miss Hockenzuhl, and has recently undergone its first trials in France prior to making the attempt to lower the kilometer record—with which object it was primarily designed. The engine has eight cylinders, the bore and stroke of which are 183 mm. (7.205 inches). A separate throttle-valve is provided in each of the induction-pipes close up to the inlet-valves, and these can either be operated simultaneously or individually. Both a low-tension magneto ignition system and a high-tension system, with coils and batteries, are provided, and the carburetor is "automatic." An interesting feature of the car is that no change-speed-gear is fitted, but that the speed of the vehicle is regulated by controlling that of the engine. The wheelbase is 2.8 meters (9.184 feet), and the car is expected to attain a speed of 185 kilometers an hour (115 m.p.h.).

Service Test of Motor Wagons.

(Continued from Page 393.)

and no one asked permission to make repairs.

The Lansden electric ran out of power and had to be towed for a couple of miles and did not get in until 10.05 o'clock, while the Electric Vehicle Company's big truck with 5,000 pounds of pig iron aboard had to be towed eight miles to a charging station in Brooklyn and did not reach the Garage until 11.30 o'clock. Good work was done by the Knox delivery wagon, which made forty-three deliveries over 27 1-4 miles of route between the hours of 8.20 a. m. and 5.05 p. m. The little Oldsmobile made 28 deliveries over twenty-seven miles of route, finishing at 5.50 p. m. One of the Pope-Waverley electric cars delivered sixty pieces of baggage, weighing 700 pounds, at forty different locations, covered 36 5-8 miles and finished at 5.50 p. m. All of the other cars covered city routes and finished early, without any incidents worth nothing.

The Second Day.

On the second day, Tuesday, the number of miles made and the number of deliveries was on the increase, and the big Fischer truck made a record trip to Yonkers, carrying 5 1-2 tons of beer.

The Hirschman steam truck returned from Yonkers today and as it was not steaming properly it was withdrawn. Trouble with the gasoline tank of No. 10, the Carlson truck, caused its withdrawal. The tank is over the motor and will be put elsewhere in future. Some piston trouble was experienced, but it is easily remedied, and the makers will ask to have the wagon put in again on Thursday or Friday.

Comparatively little trouble is being experienced by the cars now in use and the statistics, when compiled and sent out by the contest committee will doubtless surprise even the most optimistic commercial vehicle advocates.

Performances of Vehicles.

FIRST CLASS—LOAD UNDER 1,000 POUNDS.

No. 4. KNOX, air-cooled, gasoline, covered delivery wagon, 8-horsepower; driver, J. De Gowan; observer, W. Schmidt; tare weight, 2,065 pounds.

First Day, Monday, April 4—Route No. 8. Left 8.20 a. m., returned 5.05 p. m. Loaded with merchandise (packages); 43 deliveries. Covered 27 1-4 miles.

Second Day, Tuesday, April 5—Route No. 10. Left 8.20 a. m., returned 5.30 p. m. Load, 1,250 pounds feed. Covered 54 1-4 miles. Service stops, 55.

No. 7. OLDS, gasoline, covered delivery wagon, 4 1-2 horsepower; driver, R. L. Lockwood; observer, T. Sullivan; tare, 1,225 pounds.

First day, April 4.—Route No. 10. Four trips. Left 8.22 a. m., returned 6.06 p. m. Loaded with packages; 27 deliveries. Covered 26 miles.

Second Day, April 5.—Left 8 a. m., returned 6.30 p. m. Load, three loads: 140 pounds, 300 pounds, 500 pounds. Covered 32 miles. Service stops, 59.

No. 8. OLDS, gasoline, covered delivery wagon, 4 1-2 horsepower; driver, S. M. Smith; observer, Elmer Quade; tare, 1,225 pounds.

First Day, April 4.—Route No. 9. Four trips. Left 9 a. m., returned 5.50 p. m. Made 28 deliveries of packages. Covered 27 miles.

Second Day, April 5.—Route No. 9. Left 8.30 a. m., returned 6.00 p. m. Load, merchandise. Covered 27 3-8 miles. Service stops, 41.

SECOND CLASS—LOAD OVER 1,000 AND UNDER 2,000 POUNDS.

No. 5. KNOX, air-cooled, gasoline, covered delivery wagon, 8-horsepower; driver, A. G. Gruendler; observer, L. F. Holden; tare, 2,280 pounds.

First Day, April 4.—Route No. 9. Three trips. Left 9.20 a. m., returned 6 p. m. Made 52 deliveries of packages. Covered 34 miles.

Second Day, April 5.—Route No. 6. Left 9 a. m., returned 6 p. m. Covered 22 3-4 miles. Service stops, 30.

No. 11. POPE-WAVERLEY, electric, covered delivery wagon, two motors, 1 1-2 horsepower each; driver, James Garrison; observer, C. P. Everhardt; tare, 2,465 pounds.

First Day, April 4.—Route No. 10. Three trips. Left 8.45 a. m., returned 6 p. m. Made 41 deliveries. Carried 950 pounds of baggage. Covered 22 1-2 miles.

Second Day, April 5.—Route No. 10. Left 8.40 a. m., returned 5.45 p. m. Load, merchandise; four trips, 550 pounds, 350 pounds, 200 pounds, 600 pounds. Covered 46 3-8 miles. Service stops, 46.

No. 12. POPE-WAVERLEY, electric, covered delivery wagon, two motors, 1 1-2 horsepower each; tare, 2,455 pounds.

First Day, April 4.—Route No. 9. Left 8.30 a. m., returned 5.50 p. m. Delivered 60 pieces of baggage, weighing 700 pounds, at 40 places. Covered 36 5-8 miles.

Second Day, April 5.—Route No. 9. Left 8.40 a. m., returned 5.45 p. m. Load 500 pounds packages and freight. Covered 65 1-2 miles. Service stops, 45.

No. 16. CANTONO, electric tractor, or fore carriage, coupled to open box-bodied delivery wagon, two motors 2-horsepower each; driver, J. Lavergne; observer, C. J. Schaus; tare, 3,300 pounds.

First Day, April 4.—Route No. 13. Three trips. Left 8.45 a. m., returned 6 p. m. Made 28 deliveries of small packages. Covered 29 miles.

Second Day, April 5.—Route No. 14. Left 8.35 a. m., returned 7 p. m. Loaded with 1,000

pounds trunks and boxes. Covered 23 miles. Service stops, 23.

THIRD CLASS—LOAD OVER 2,000 AND UNDER 3,000 POUNDS.

No. 2. ROCKLIFF, gasoline, open express wagon, 15 horsepower; driver, Charles Miller; observer, F. W. Eveland; tare, 4,092 pounds.

First Day, April 4.—Route No. 1. Left 8.40 a. m., returned 5.52 p. m. Loaded with 900 pounds of baggage. Covered 34 7-8 miles.

Second Day, April 5.—Route No. 2. Left 8.33 a. m., returned 5.55 p. m. Loaded with 1,930 pounds of iron and merchandise. Covered 34 miles. Service stops 5.

No. 13. LANSDEN, electric, open express wagon, Edison battery not rated; driver, Dow B. Hughes; observer, C. A. Schneider; tare, 2,760 pounds.

First Day, April 4.—Route No. 2. Left 9.05 a. m., returned 10.05 p. m. Transferred baggage. Covered 31 5-8 miles. Was towed for two miles.

Second Day, April 5.—Route No. 3. Left 8.54 a. m., returned 6.20 p. m. Load, freight. Freight transfers between offices. Covered 33 miles. Service stops, 26.

No. 10. CARLSON gasoline, open truck, 20 horsepower; driver, C. A. Carlson; observer, A. L. Clough; tare, 2,830 pounds.

First Day, April 4.—Route No. 3. Left 9.20 a. m., returned 11.08 p. m. Made six deliveries of merchandise. Covered 11 1-4 miles.

Second Day, April 5.—Withdrawn.

No. 6. KNOX, gasoline, air-cooled, covered delivery wagon, 16 horsepower; driver, J. E. Cowen; observer, E. R. Mixer; tare, 2,815 pounds.

First Day, April 4.—Route No. 5. Four trips. Left 8.22 a. m., returned 5.30 p. m. Delivered 2,100 pounds of baggage. Covered 28 1-4 miles.

Second Day, April 5.—Route No. 7. Left 8.28 a. m., returned 5.25 p. m. Load, light loads of merchandise taken on and off consecutively. Covered 31 1-2 miles. Service stops, 34.

No. 9. CONSOLIDATED MOTOR CO., gasoline, friction drive, open express wagon, 7 horsepower; driver, Joseph Mallon; observer, P. M. Heldt; tare, 3,450 pounds.

First Day, April 4.—Route No. 7. Left 8.45 a. m., returned 7.20 p. m. Made 37 deliveries. Carried 1,400 pounds of baggage. Covered 25 1-8 miles.

Second Day, April 5.—Route No. 1. Left 8.56 a. m., returned 3 p. m. Load, 2,278 pounds of merchandise, veal and iron. Covered 55 3-4 miles. Service stops, 10.

No. 14. ELECTRIC VEHICLE CO., electric, covered delivery wagon; driver, G. W. Gammock; observer, W. P. Pabenbroth; tare, 5,400 pounds.

First Day, April 4.—Route No. 4. Three trips. Left 8.45 a. m., returned 6.40 p. m. Transferring baggage. Covered 37 3-4 miles.

Second Day, April 5.—Route No. 5. Left 8.45 a. m., returned 6.30 p. m. Load, 2,000 pounds baggage. Covered 25 miles. Service stops, 28.

FOURTH CLASS—LOAD 4,000 POUNDS.
No. 3. UNION MOTOR TRUCK CO., gasoline, open stake truck, 20 horsepower; driver, C. Bloomer; observer, F. O. Willhoff; tare, 6,850 pounds.

First Day, April 4, Route No. 1 Left 8.08 a. m., returned 6.16 p. m. Loaded with 4,000 pounds of merchandise, and pig iron. Covered 34 1-2 miles.

Second Day, April 5. Route No. 2. Left 8.18 a. m., returned 6.54 p. m. Loaded with 3,500 pounds of iron and boxes. Covered 35 miles. Service stops, 6.

FIFTH CLASS—LOAD 5,000 POUNDS.
No. 15. ELECTRIC VEHICLE CO., electric, open truck; driver, J. A. Crittenden; observer, H. B. Eaubank, Jr.; tare, 6,700 pounds.

First Day, April 4.—Route No. 2 Left 8.25 a. m., returned 11.30 p. m. Loaded with 1,000 pounds baggage to Fulton Street, Brooklyn; there loaded with 5,000 pounds pig iron. Covered 28 miles. Was towed about 8 miles to charging station.

Second Day, April 5.—Route No. 1. Left 8.24 a. m., returned 10.45 p. m. Loaded with 5,000 pounds pig iron and merchandise. Covered 32 miles. Service stops, 7. Was towed to charging station.

EIGHTH CLASS—LOAD 10,000 LBS.
No. 17. FISCHER, combination of gasoline and electric, open truck, 20-horsepower; driver, ———; observer, Louis Sanders; tare, 14,050 pounds.

First Day, April 4.—Route No. 2. Left 6 a. m.; arrived Flushing 7.58 a. m., made delivery of 60 half-barrels of beer weighing 12,000 pounds. Picked up 4,000 pounds of "empties," left Flushing 3.14 p. m., arrived brewery 4.40 p. m.

Second Day, April 5.—Yonkers route. Left 6.04 a. m., arrived Yonkers 10.30; delivered 5 1-2 tons beer—50 half-barrels and 10 quarter barrels. Four men aboard. Left 11.27 a. m., returned to brewery 6.08 p. m. Miles covered 37. Average speed, exclusive of stops, 5 3-10 miles an hour. Maximum grade about 7 per cent.

No. 18. COMMERCIAL AUTOMOBILE CO., steam, open truck, 25 horsepower; driver, ———; operator, J. Bentley; tare, 14,100 pounds.

First Day, April 4.—Brewery route. Left 6.30 a. m., arrived Yonkers 3.30 p. m. Remained there over night. Started return trip Tuesday morning. Carried 50 half-barrels of beer, weighing 10,000 pounds.

Second Day, April 5.—Remained over night at Yonkers. Left 8.30 a. m., arrived in New York 1.55 p. m. Withdrawn.

GOOD ROADS IN WESTCHESTER.

A. R. Shattuck, chairman of the good roads committee of the Automobile Club, announces that Greenboro, in Westchester County, just north of New York City, has bonded itself for \$250,000 to build good roads.

"Particular attention will be paid to roads in Tarrytown, Dobb's Ferry and Hastings," said Mr. Shattuck. "I am glad to say that Central Avenue from White Plains to the city line will soon be macadamized, while a contract has already

been let for the asphalting of Jerome Avenue up as far as 180th Street, Fordham; and the bad cross walks will disappear. Nothing will be done to the stretch near the Jerome Park reservoir until that work is finished. Slow work marks that undertaking and efforts should be made to have it done more rapidly. An extra allowance of money and extra time have been given to the contractor, but the work is advancing very slowly. The Jerome Avenue improvement is the result of the big petitions of horsemen, cyclists and automobilists two years ago.

"The road from Yonkers to the Westchester line is nearly finished, and the one from White Plains to the Putnam County line will be ready this summer. Next year the road through Sumners will be fixed, which will give ninety-three miles of good roads in Westchester County."

OPPOSE METRIC SYSTEM.

N.A.A.M. Passes Resolution Against Southard Bill in Congress—Other Business.

Believing its adoption would be detrimental to the interests of automobile manufacturers, the National Association of Automobile Manufacturers, at its regular monthly meeting on Tuesday, passed a resolution in opposition to the Southard bill now before Congress, which calls for the adoption of the metric system in this country.

Complying with a request from the National Manufacturers' Association of Indianapolis, R. D. Chapin introduced the resolution in opposition to the bill introduced by Congressman James H. Southard, and a copy will be sent to the Committee on Coins, Weights and Measures at Washington. Although Mr. Southard has said the measure was not compulsory, the manufacturers claim that it compels the adoption of the system because it reads so, and if it doesn't compel, the natural inquiry is, why pass it at all?

The only use now made of the metric system in the trade here is in the manufacture of spark plugs.

D. J. Post of the Accessories and Parts Manufacturers' Association appeared before the meeting to tell of the objects of his organization and with a view of continuing its harmonious relations with the N. A. A. M. The show committee of the latter was instructed to confer with a similar committee from the parts men relative to space allotment.

The committees on shows, freight rates and St. Louis exhibition reported progress. Incidentally it was mentioned that the exhibit of automobiles at St. Louis would be complete by April 15.

S. T. Davis, Jr., R. D. Chapin and G. W. Bennett were appointed as a membership committee.

Every Executive Committee member was represented except M. L. Goss. At the meeting were: S. T. Davis, Jr., (Locomobile Company of America, Bridgeport,

Conn.), Windsor T. White (White Sewing Machine Co., Cleveland, Ohio), Charles Clifton (George N. Pierce Co., Buffalo, N. Y.), Percy Owen (Winton Motor Carriage Co., Cleveland, Ohio), Roy D. Chapin (Olds Motor Works, Detroit, Mich.), Col. K. C. Pardee (Packard Motor Car Co., Detroit, Mich.), J. Wesley Allison (Woods Motor Vehicle Co., Chicago, Ill.), Charles E. Duryea (Duryea Power Co., Reading, Pa.), William R. Innis (Studebaker Bros. Mfg. Co., South Bend, Ind.), I. H. Page (J. Stevens Arms & Tool Co., Chicopee Falls, Mass.), M. J. Budlong (Electric Vehicle Co., Hartford, Conn.), E. H. Cutler (Knox Automobile Co., Springfield, Mass.), C. E. Walker (Pope Manufacturing Co., New York), G. W. Bennett (Thomas B. Jeffery & Co., Kenosha, Wis.)

RECENT INCORPORATIONS.

Powell Automobile Co., of Omaha; capital stock, \$15,000. Incorporators, C. G. Powell, Ezra Millard and F. F. Swift.

Moline Automobile Co., Moline, Ill.; capital, \$50,000; to manufacture automobiles. Incorporators, O. J. Root, H. A. Soverill and Rufus Walker, Jr.

Moore & Munger, of New York, N. Y.; to deal in automobiles; capital, \$5,000. Directors, G. W. Moore, L. D. Munger and C. C. C. Moore.

Mahoning Motor Car Co., Youngstown, O.; capital, \$25,000. Incorporators, L. E. Cochran, W. P. Williamson, W. J. Hitchcock, W. H. Buechner and J. B. Kennedy.

Little Four Automobile Mfg. Co., Detroit; capital, \$25,000. Incorporators, Wyatt L. Brown, John D. McLachlan and Fred L. Brown.

Randall Motor Car Co., of Fort Wayne, Ind.; capital stock, \$10,000. Directors, Fay P. Randall, A. L. Randall and Louis Ohnhaus.

Camden Motor Co., of Camden, N. J.; to manufacture and sell automobiles. Incorporators, Josiah S. Reeves, John T. Bottomley, C. W. Reeves and E. G. Reeves, all of Camden.

Keystone Automobile Co., Pittsburgh, Pa.; capital stock, \$50,000. Directors, O. A. Vestel and A. P. Meyer, of Pittsburgh, and W. H. Foster, of Allegheny.

Star Automobile Co., of Buffalo, N. Y.; capital, \$10,000; to manufacture automobiles. Incorporators, Daniel B. Driscoll, Elmer E. Chambers and Daniel Burgmaster.

Industrial Motor Co., New York City; capital stock, \$500,000; to manufacture and sell motors.

Governor Murphy, of New Jersey, is becoming an enthusiastic automobilist. Recently he was the guest of Walter Edge, at Atlantic City, secretary of the State Senate and a member of Governor Murphy's staff, who took him for a ride in his touring car which the Governor enjoyed thoroughly despite bad road conditions.

April 9, 1904.

THE AUTOMOBILE

VOL. X.

No. 15

Published every Saturday by

THE CLASS JOURNAL CO.,

Flatiron Building, Madison Square,
NEW YORK CITY.Cable Address - - - Autoland, New York
Long Distance Telephone - 300 Gramercy, New York

SUBSCRIPTION RATES:

United States, Canada and Mexico, - One Year, \$2.00
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Paris.

GERMANY:—A. Seydel, Mohrenstrasse 9, Berlin.

To Advertisers—Copy or changes in orders for advertisements should reach us not later than 5 o'clock p. m.
Monday for the issue of Saturday following.Copyright, 1904, by The Class Journal Company.
Entered at New York, N. Y., as second-class matter.

The Automobile is a consolidation of The Automobile (monthly) and the Motor Review (weekly).

Copies Printed This Issue, - - 12,000
" " Since January 1, - 180,800

One National Organization. Consolidation of the two national automobile organizations, the American Automobile Association and the American Motor League, is now practically accomplished. The responsible officers of both organizations, after a series of meetings and friendly deliberations, have agreed upon a plan which protects the interests of members of both organizations, and it now remains only for these members to ratify the agreement. A mail vote on the question will be taken and there is no doubt whatever that this will be overwhelmingly in favor of the plan. In that case the new organization, to be known as the American Motor Association, will be thoroughly representative of the sport and pastime of automobiling in America, and can go forward with undivided interest in the sole work of betterment of automobiling conditions.

This is really a grand mission and worthy of the best efforts of the most enlightened and progressive Americans. The enormous territory embraced in the United States proper and the vast and rapidly increasing population give a field of effort that is inspiring. Great as are the numbers of automobilists now in the ranks, and as the numbers of machines in use, they are insignificant in comparison with what the totals must be only a few years hence.

To those who join the ranks later, the new organization will be of immense

benefit. It will have acquired a fund of information and experience in matters of sport, legislation, in the advancement of good roads interests, and the like, that will be immediately available for the benefit of the novice.

It will also act as a balance wheel in the movements that from time to time will come into action as the influence of automobilism spreads over the land.

These duties and privileges of the new organization carry with them responsibilities. The good name and reputation of the sport of automobile racing on land and water, the conservation of the rights of automobilists on the road and off without encroachment on the right of others; these rest largely in the hands of the executive officers. To fulfil the trust that is reposed in them they will need to approach all questions with an eye single to the interests of all. Self interests may conflict with the best interests of automobiling, and the faithful officer will not hesitate in his choice.

We sincerely hope that the plan as proposed will be carried through and wish the new organization the success that its mission deserves.

Y. M. C. A. The Automobile Club of America has generously donated a sum of \$1,000 to be applied in the establishment of a course of instruction in automobile engineering in New York under the auspices of the Young Men's Christian Association. The broad interest thus shown in the educational side of automobiling is very commendable and it makes possible the establishment in New York of a course similar to that which has been open to students at the Y. M. C. A. in Boston, Detroit and other cities. The local managers of the Young Men's Christian Associations in these cities are also entitled to credit for their progressiveness in organizing such lecture courses and thereby giving students of the automobile an opportunity to get instruction at a nominal figure. The responses that their efforts have met with are really surprising; large attendances and some really good work, showing serious intentions on the part of the students, are the rule.

The demand which such courses can meet is, however, largely from those who desire a general, rather than a special knowledge of the subject. For those who really intend to go deeply into the complexities of automobile construction there is a great and present need of systematic and prolonged technical instruction. The great colleges and technical schools of the country have been very slow to recognize the importance of the new branch of engineering, and as yet have done little toward supplying the special mental equipment of the men who are available material for constructors. In this respect probably more than any other we are

behind the foreign nations. The number of men of scientific attainments in the field today is woefully small, and, unfortunately, rule of thumb and cut and try methods prevail where in like cases the foreign builder employs recognized engineering methods. The one manufactures his own experience at frightful cost, while the other avails himself of the accumulation of engineering data and recorded experience, and is frequently able to start where his purely practical competitor leaves off.

Of this subject we shall have more to say at another time. Meanwhile it is gratifying to know that a start has been made in the educational movement, and if the Y. M. C. A. management never did anything more than to open the eyes of the higher educational bodies to the needs of the situation it would have accomplished a great work.

As we go to press telegraphic advices report the passage of the Hill automobile bills in the Assembly at Albany, N. Y. These included the main bill for controlling automobiling in the State of New York, and the supplementary bills repealing the Bailey law and amending the Penal Code so that only the penalties in the Hill bill will apply to automobilists. A few slight amendments were made in the Hill bill as it came from the Senate after passage by that branch of the Legislature, and the bill therefore now goes back to the Senate for concurrence. It is considered practically certain that it will go through without delay and will immediately receive the signature of Governor Odell, and thus become law.

Now that the standards in motor car construction have been fairly well established in this country, manufacturers might very well give more attention than they have so far done to making minor improvements with the object of increasing the convenience and comfort of their cars. Serious efforts are being made abroad in this direction and it is to be believed that this fact accounts for much of the success of the foreign vehicles. European manufacturers, as soon as they learned how to build rigs that run, endeavored to make rigs pleasant to run. It is time for us on this side to follow their example more extensively than has been done. For instance, an inspection of cars often shows that too little care has been taken to make the body roomy and comfortable. The coming reign of the side entrances promises to give more room in the tonneau and to result also in a lengthening of the wheelbase and the use of longer springs. There is no sufficient reason why springs should not be made as long as a proper connection between the power plant and the wheels allows. The increase in cost and weight would be but slight, while the ease in riding would be greatly increased.

Consolidation of A.A.A. and A.M.L. Assured.

Results of the Conference Between Officials of Both Bodies— List of New Officers—Mail Membership Vote.

By the action of the directors of the American Automobile Association at its regular monthly meeting at the Automobile Club of America's room on Tuesday, an amalgamation of the A. A. A. and the American Motor League will surely take place. A movement toward consolidation has been under way for some time, as told two weeks ago in *THE AUTOMOBILE*, and conferences finally resulted in an agreement for the merger which is satisfactory to the officers of both organizations.

The name of the new body will be the American Motor Association, and while President Whipple of the A. A. A. will remain at the head of the consolidated bodies, Isaac B. Potter, who has done much work in building up the Motor League, will fill the office of secretary. C. E. Duryea, the first president of the A. M. L., will be first vice-president of the new organization, while the other positions go to the A. A. A.

There will be twenty directors on the governing board, ten to be appointed from each organization. The racing committee of the League will be discontinued while the A. A. A. racing board remains unchanged. Standing committees of the two bodies are to be doubled up.

It is known that the American Motor League has over 3,000 individual members and the A. A. A. has a strong club membership, although it has less than 100 "individuals" on its list.

In attendance at the board meeting were Harlan W. Whipple, president; C. H. Gillette, secretary; Elliott Lee, Massachusetts Automobile Club; Dr. W. E. Milbank, Albany Automobile Club; Dr. Julian A. Chase, Automobile Club of Rhode Island; Windsor T. White, Cleveland Automobile Club; A. R. Pardington, Long Island Automobile Club; S. H. Valentine, Automobile Club of America, as well as President Scarritt and Augustus Post of the A. C. A.

Antent the consolidation of the A. A. A. and the A. M. L., President Scarritt of the Automobile Club of America, issued the following statement:

"For a long time past there has been a growing feeling among men prominent both in the American Automobile Association and the American Motor League that these two bodies should unite.

"A few weeks ago, President Whipple of the A. A. A. appointed a committee consisting of Winthrop E. Scarritt, president of the Automobile Club of America; John Farson, president of the Automobile Club of Chicago, and George E. Farrington, president of the Automobile Club of New Jersey, to confer with a committee from the American Motor League, consisting of I. B. Potter and Frank Egan. After many

conferences a plan of merger was reached, which has today been approved by the governors of the American Automobile Association. It now goes to the membership for ratification.

"If the plan outlined shall become operative, I believe it will mark a red letter day in the history of automobiling in America. I hope that under President Whipple's able administration this result may be brought about."

A committee of two members from each party will draft the new constitution and by-laws. The A. A. A.'s representatives will be S. M. Butler and Emerson Brooks, while the A. M. L. members will probably be Isaac B. Potter, president, and Frank Egan, chairman of the membership committee.

The merger as outlined will be submitted to the individual members of each organization and those not voted within fifteen days will be regarded as in the affirmative.

At the governors' meeting, John Farson of Chicago, resigned as vice-president and Charles E. Duryea was appointed in his place. C. H. Gillette offered his resignation as secretary, but it was declined. He says, however, he will ask to have it accepted at the next meeting, as he has plans in view which will take too much of his time to permit of his occupying any official position in the A. A. A. In the meantime, matters pertaining to the St. Louis run, on which Secretary Gillette worked so enthusiastically, will be handled by S. M. Butler.

The following is a statement of the plan of merger which the individual members throughout the country will be called upon to approve.

GENERAL STATEMENT.

The opinion has been commonly expressed that the automobilists of America should be united into one body, and that such body should be maintained for the useful and militant purposes which all friends and users of the motor car now seek to effect. Sharing in this opinion and believing that in no way could their effort for the common good be more worthily directed, the managing boards of the American Automobile Association and the American Motor League have, through their representative committees, held joint conferences at which the subject of merger has been discussed in a most amicable spirit and a plan for uniting these two national bodies finally prepared for submission to the individual members. Such plan has been approved by the executive boards of both organizations and the assent of the membership at large is now requested in order that the merger may be

completed and the work of the united body set in motion as promptly as possible. The plan of merger is as follows:

PLAN OF MERGER.

1. The name of the united body formed by this merger shall be the American Motor Association.

2. The official year of the American Motor Association shall be fixed by the constitution and by-laws, to be adopted as herein after provided. The officers of the American Motor Association, to serve during the remainder of the present official year, shall be as follows:

President, Harlan W. Whipple; First Vice-President, Charles E. Duryea; Second Vice-President, William Hotchkiss, Buffalo; Third Vice-President, Milbank Johnson, Los Angeles; Secretary, Isaac B. Potter; Treasurer, Geo. F. Farrington.

3. The general management and control of the affairs, funds and property of the united body shall be vested in the governing board, to be composed of ten directors to be appointed by the A. M. L. and a similar number to be appointed by the A. A. A. The directors so appointed shall include the officers named in paragraph 2.

4. The racing department of the A. A. A. including its several appointees shall be in no manner affected by this merger, but shall remain and continue in operation under the authority of the united body, subject only to such amendments, if any, as may hereafter obtain force.

5. A department of organization shall be formed and maintained for the purpose of enlarging and strengthening the united body and of directing and encouraging its effective work in various departments. This department shall be placed in charge of the secretary, who shall act as manager thereof under such arrangements as may be deemed best for the effective upbuilding of the association.

6. In all cases where the two component bodies of this merger have national committees bearing the same title or similar titles, such committees shall become and operate as one committee for the remainder of the present official year. Other committees of the A. A. A. and A. M. L. shall continue their duties as heretofore, with the exception of the racing committee of the A. M. L., which is now discontinued.

7. A committee consisting of two members selected from the present membership of the A. M. L. and a like number selected from the present membership of the A. A. A. shall prepare a constitution and by-laws to serve the purposes of the united body and shall present the same to the governing board for its adoption. The constitution and by-laws so adopted shall remain in force until amended or suspended at a regular or special meeting of the united body upon due notice. Such constitution and by-laws shall among other things, make due provision for the con-

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tinuance of clubs, local organizations and individual membership in the American Motor Association and shall harmonize as closely as practicable with the constitution and by-laws of the A. A. A. and A. M. L. as framed prior to the merger of the two bodies.

8. This memorandum shall be submitted to the various local bodies and members contained in the merging organizations for assent and approval, and a two-thirds affirmative vote shall be deemed sufficient to ratify the plan of merger herein set forth. The assent or objection of each member shall be taken by a mail vote, and for that purpose a communication plainly stating terms and purpose of the proposed merger shall be submitted to each member, and after a lapse of fifteen days from the mailing of such communications members not having replied to the same will be deemed as in favor thereof.

AUTO LEGISLATION AT ALBANY.

Special Correspondence.

ALBANY, N. Y., April 5.—Senator Hill's three bills to repeal the present Bailey law and enact a new law for the regulation of automobiles on the public highways have been reported from the Rules Committee. Two of the bills have been reported for the calendar of Wednesday, and the third and most important, because it is the one which contains all the provisions of the proposed new auto-law, will be reported as soon as it can be read. It has been amended in the Assembly, as was agreed upon in the Senate, to make sure that the signs for lower speed shall be on the main highways of a city or village, and hence had to be reprinted. This will call for a delay of a couple of days before the bill can be read for the last time in the Assembly. It is probable that the other two bills reported out will be held till the main bill is before the Assembly, being merely supplementary.

OLDFIELD AND HAUSMAN SUSPENDED.

Because he competed in unsanctioned meets at Savannah, Ga., on February 25, and at Birmingham, Ala., on March 8, Barney Oldfield, the champion automobile driver of America, has been suspended by the Racing Board of the American Automobile Association. As E. C. Hausman, who drives the Ford racer, competed at the same time, he is also suspended. Promoters are warned against permitting either of these men to compete at sanctioned meets.

The disqualification will continue until Oldfield and Hausman have made an acceptable explanation to the race controlling body.

CHICAGO MOTORISTS EMERGE ON EASTER.

They Take Advantage of First Good Weather to Drive Over the Boulevards and Try New Cars.—Absence of License Numbers Noticeable.

Special Correspondence.

CHICAGO, April 4.—Easter Sunday was "automobile day" here, and judging from the number of cars on the boulevards, nearly every owner of a machine in the city was celebrating the advent of spring and sunshine by taking a ride. Rain, sleet, snow and mud have kept the automobiles closely housed every day since spring was officially announced by the almanac, until last Friday, when the sun struggled through the clouds and smoke hanging over the city and began its task of drying up the mud in the streets. The city authorities helped a little, and the boulevards, at least, were made navigable. Church-going automobilists were pleased with weather conditions Sunday morning and many Easter bonnets went to church in automobiles. In the afternoon, despite a brisk wind off the lake, many took a run over the boulevard system.

FEW LICENSE TAGS CARRIED.

Automobilists do not have to carry numbers on their cars now since the decision in the Bunker case a few weeks ago, and the majority of the cars on the boulevards yesterday were without them.

The peculiar position of Chicago in being without a licensing and numbering ordinance, is attracting the attention of automobilists in other cities and States where obnoxious laws are being pushed through council and legislature, and they are seeking sympathy and aid here. Sidney S. Gorham, counsel for the Chicago Automobile Club has received a request from John P. Schneider of Detroit, Mich., for advice as to how to proceed to test the constitutionality of the ordinance in that city. The provisions of the new Chicago ordinance which is being prepared under the direction of Attorney Graham will be submitted to Mr. Schneider for his guidance. The Chicago city law department is desirous of framing an ordinance governing automobiles that will stand the test of the courts and at the same time prove satisfactory to automobilists, and a conference between the corporation counsel and the officials of the club will be held in a few days for the purpose of outlining a course of action. This conference has been delayed for some time because of the absence of President Farson.

CLUB RESUMING ACTIVITY.

Mr. Farson returned home last Thursday after a month's absence in New York, and there will be renewed activity about the clubhouse this week as a result. The regular meeting of the directors has been

postponed from Tuesday until Wednesday on account of the city election. Many new members will be admitted Wednesday, and considerable business of importance will be transacted. The club has secured the privileges of the Evanston Yacht clubhouse for a country club headquarters and plans for runs to that place and entertainment for the members while there, will be discussed at the meeting. The La Grange Golf Club may also be one of the termini for some of the summer runs. Some important changes are to be made about the clubhouse, as it is the intention of the directors to make it so inviting that members will visit it frequently during the summer. The garage this year will be conducted by the club, which will employ a superintendent to look after the cars, and all repairing done will be at the lowest possible price.

The opening run of the Chicago Automobile Club for this season will be held next Saturday, the members driving to Indiana Harbor, Ind., twenty miles, which the members think is far enough, with the roads in their present bad condition. The run will be a good test, not only for the old machines which have heretofore been used for touring purposes, but for the new cars, which will have their first trials on country roads. Should much rain fall, the trip will probably be abandoned.

John E. Fry, local sales manager for the Apperson Brothers machines, has an extensive record-breaking itinerary scheduled for this summer. Fry will be aided on all of his trips by Jerome Ellis. Among the trips to be made are from New York to Chicago, Chicago to St. Louis, and Chicago to South Bend, Ind. The records from New York to Chicago and from Chicago to South Bend are held by Bert Holcomb, of Hartford. With fair weather and road conditions, Fry will go to South Bend next Sunday, leaving Chicago at 10 a. m. The record is 4 hours and 30 minutes, but the local man expects to make the trip in less than four hours. He will use a 40-horse-power Apperson, which he will also use for the run from here to New York.

ORMOND TRIALS IN DOUBT.

Course Nearer New York Desired if Cup Car Tests Are Needed.

It is possible that the elimination trials for the international cup race, if such trials are required, may not be held at Ormond Beach. The inability of Alden Sampson, and, to have his car ready and the inability to secure information from Peter Cooper Hewitt as to the present condition of his car, seems to indicate that only the Peerless people will be ready for the Automobile Club's committee inspection April 15. If trials are deemed necessary after the inspection, an effort may be made to try out the cars on some course nearer New York than the Florida beach.

However, if the trip to Ormond is taken, it has been suggested that the Automobile

Club secure a sanction from the A. A. A. to insure acceptance of any new records created. The trials will be over a distance of 100 miles, and as there are no official figures in this country for distances over fifty miles, any new times made will be foundation records and should be properly credited.

Moreover, if the A. C. A. takes a sanction for these trials, it can properly invite any one to go against time during the trials. This would give America a chance to get some new records and would permit a comparison of the cup cars' performances against machines now in use. Should the cup cars be unable to do so well as the outsiders, it is deemed proper that the committee should know it and that they should be barred from representing this country abroad.

DETROIT TO ST. LOUIS.

Several Club Members Buy New Cars for the Big Run.

Special Correspondence.

DETROIT, April 4.—Many local automobile enthusiasts are planning to take part in the run to the St. Louis exposition. Interest in this project is growing daily, although the Detroit Automobile Club has not officially begun the campaign to ascertain the exact number who think of going. It is safe to say at this time, however, from talk with a number of the members, that a goodly proportion of the membership will go and several have already bought new touring cars with this in view. Others are looking around among the standard makes and within a few weeks will have new machines. The local dealers say that a surprising number of persons are looking at cars for the express purpose of going on the World's Fair run.

Among those who will surely make the run are President Fred O. Paige, of the Detroit Automobile Club; Russell A. Alger, Jr., Dexter M. Ferry, Jr., Gilbert F. Lee, A. S. Parker, Wilford Thompson, who will make the St. Louis trip, accompanied by a friend, in his Northern runabout, and others. In all perhaps there will be seventy-five in the party. They will go from here to Toledo, joining the big touring party from the East at that point.

BUYING SEASON OPENS EARLY.

The buying season opened here much earlier than was expected, owing to the hard winter, and there is great activity among the Detroit garages. Some of the dealers report that they have sold three and four times the number of machines they expected to sell by this early date, and there is every prospect for the continuance of good business. They say that the Detroit automobile show awakened the popular interest and that the effect of this will be felt for several months.

As a direct result of the show, J. P. Schneider, local agent for the Northern,

Peerless and Thomas cars, has sold a club order of eight Northern touring cars to Detroiters, most of whom have announced their intention of making the St. Louis trip. The engine in the Northern chassis was the only one on the Armory floor that was permitted to run throughout the show, its noiselessness and freedom from vibration securing this privilege. Five Peerless touring cars have also been sold within a few weeks, among those who have ordered being E. S. George and S. G. Farwell.

BUSINESS VEHICLES BECOMING COMMON.

As the spring season opens Detroit streets are beginning to look busy with motor cars and the almost daily addition of automobile delivery wagons to the equipment of the local business houses shows that the value of the auto for business purposes is fast being recognized in this city. A considerable number of the business houses, both wholesale and retail, own their own motor wagons and, with the Auto-Express Company's delivery vehicles and the new Packard trucks running swiftly about, it may be safely said that Detroit has formally "adopted" the automobile, both pleasure and business. The Olds Motor Works has supplied a number of business houses with their handsome new style delivery wagons and in addition to this they are sending many of them abroad. Recently a consignment of four was sent to Cape Town, Africa.

LIVERYMAN TO RENT AUTOS HEREAFTER.

One of the few livery stable keepers in the United States to deliberately desert the business of letting horses, to go into the automobile livery business, is David J. May, the well-known Abbott Street liveryman. Mr. May this week began to sell out his big establishment in the heart of the city. After looking the automobile situation over carefully, he has come to the conclusion that the motor is certain to succeed the horse for livery purposes and he regards the transition as a matter of time only. He will remodel his stable into a handsome garage and repair shop. He thinks that in turning from the horse to the automobile he is one of the pioneers in a movement that is sure to extend among liverymen the country over.

AUTO SENTIMENT DIVIDED.

Revealed by Threatened Invasion of Drive by Car Line.

Special Correspondence.

MINNEAPOLIS, April 2.—Property owners along Lake Street, one of the popular driving thoroughfares of this city, are divided in sentiment toward the automobile and the bicycle. Meetings were held Thursday night in these two wards to discuss the advisability of permitting the construction of a street railway through Lake Street from Hennepin Avenue to the Lake Street Bridge over the Mississippi. The eighth warders declared emphatically against the project on the ground that this

would ruin the thoroughfare for driving purposes, notwithstanding there are many business houses on the street.

But in the seventh ward, one of the arguments advanced in favor of the street car line was that it would discourage automobile along the street, and would mean the destruction of the bicycle path, which is one of the main arteries of the local system of cycle paths.

Lake Street extends to the foot of Lake Calhoun and is a continuation of the boulevard to Lake Minnetonka. It is the most direct route to St. Paul, and also connects with Minnehaha Avenue, which leads to Minnehaha Falls. The proposed street-car line is intended to become part of a new interurban system between the two cities.

CANADIAN AUTO NEWS.

Motor Cars Threatened with Heavy Tax in Montreal.

MONTREAL, Can., April 2.—A proposed tax of \$15 on every automobile or other vehicle not drawn by horses and used exclusively for business purposes, and \$30 on every such vehicle used for pleasure driving or the transportation of passengers, was strongly opposed by Alderman Nelson at a recent special meeting of the city council called to consider proposed amendments to the city charter.

Nothing can be done in this matter until it reaches the Provincial Legislature, where it will either pass the House or be modified or thrown out altogether. In all probability several meetings will be held to discuss the tax measure and persons interested in automobiling will get together to make a fight against it.

TO START A MOTOR BUS SERVICE.

A regular service of motor busses between the business center of Montreal and towns on the opposite side of the St. Lawrence River will be started within a few weeks by the Montreal and South Shore Auto Car Co., Ltd., a strong concern recently formed by residents of this city. Privilege for the busses to cross the Victoria Jubilee Bridge has been granted by an agreement with the Grand Trunk Railroad Company. The motor busses will run to St. Lambert, the Victoria County Golf Club, Montreal Polo Grounds, and the Montreal Hunt Club, making a round trip of about seven miles, for which a fare of ten cents is to be charged, single trip being five cents. The vehicles are to run on a fifteen or twenty-minute schedule.

The busses are of 20 horsepower, with seating accommodation for twenty-two passengers. Passengers will enter at the front through a vestibule with a door on the right side. The vehicles were built in the United States and the first shipment of them is expected to arrive here almost any day, but future orders are to be placed with Canadian firms.

The automobile is receiving especial and not altogether desired attention at the

hands of the board of the Canadian Fire Underwriters' Association in Toronto, the increasing numbers of these vehicles coming into use and the frequent storage of them on the owner's premises constituting, in the opinion of underwriters, an extra hazard on the outbuildings owing to the use of gasoline. In Montreal a flat rate of 2 1-2 per cent. on the value of the car is charged for a policy covering the vehicle, with a special clause exempting the company from liability in case of fire originating in the vehicle.

The graduating class in mechanical engineering at McGill University is preparing to undertake the experimental construction of an automobile. Castings for the engine have been bought and the motor will first be set up on the floor of the thermodynamic laboratory where it will serve as a model. The car to be built will weigh complete about 1,800 pounds, the motor being of twin cylinder type and 12 horsepower.

FIRST FRENCH CAR APPEARS.

The first Panhard touring car imported to this city has been tried here in the last two weeks, during which it plowed through deep snow in muddy and badly cut-up streets. It was imported by A. J. de B. Corriveau.

The report comes from Toronto that during the entire very severe winter just ended many residents owning cars made regular use of them, despite the blizzards and cold weather.

Several Montreal men have already bought new cars for this season, and others are placing orders both for pleasure vehicles and commercial wagons. It is believed that a large number of autos will be seen here next summer.

BOSTON HILL CLIMBING TEST.

Entries to Be Classed by Weights, With Cars Empty.

Special Correspondence.

BOSTON, April 4.—There has been some misunderstanding as to the classification of entries for the hill-climbing contest of the Massachusetts Automobile Club, on Commonwealth Avenue, Boston, April 19, but all queries are set at rest by the publication of the official circular for entrants by Chairman William Wallace, of the club racing committee. The entries will be separated into steam, gasoline, and electric classes. In each of these three grand divisions there will be five subdivisions, making a total of fifteen classes. These classes for each motive power are as follows:

Class AA, weighing more than 2,205 pounds.

Class A, weighing 1,433 to 2,205 pounds.

Class B, weighing 818 to 1,433 pounds.

Class C, weighing 515 to 818 pounds.

Class D, weighing 110 to 515 pounds.

Lack of official provision will prevent

comparison with foreign cars in Class AA.

The weight of vehicles in the several classes is to be taken with the cars empty—that is, without passengers, stores, tools, spare parts, luggage, clothes or provisions. Lamps, lamp brackets and horns are not comprised in the weight of the vehicle. Cars with motor-driven ignition devices are to be allowed fifteen pounds on weight. Each car will be allowed only one person in the contest. The fee for each car is \$5. Entries close April 15. Falsification in recording a competing car will void a prize, if the car should win. The prizes will be handsome silver cups. They will be given in each class, if there are two or more entries in each.

A rolling start has been decreed for the hill climb. Cars will be allowed fifty feet for flying start before crossing the official starting line.

FEAR DAMAGE TO ASPHALT.

May Revoke Motor Truck Licenses in Washington this Summer.

Special Correspondence.

WASHINGTON, D. C., April 2.—It was intimated at the District building this week that the licenses of a number of big automobiles used for commercial and other purposes may be revoked during the summer months if it is found that they damage the pavements to any extent. This intimation came about through the application of the Auto-Transit Company for a license to operate its big electric sight-seeing car. The application has been pending for some time and had the recommendation of Commissioners West and McFarland, but Colonel Biddle, the engineer commissioner, held it up. Finally he agreed to grant the license with the stipulation that the District Commissioners shall reserve the authority to recall the license in case the car should cause damage to the asphalt pavements during the hot weather when the asphalt softens.

In his report on the subject Colonel Biddle states that ordinary automobiles have thus far not damaged the pavements, but in the warm weather he is apprehensive lest the big cars might tear up the sheet asphalt. The proviso noted with reference to the license for the Auto-Transit Company, he states, will apply to all large automobiles used for draying and other purposes. Concluding his report, Colonel Biddle says:

"It is not the weight of the automobiles that might cause the damage, but it is the tremendous pulling of the wheels upon the asphalt caused by the manner of locomotion. In warm weather it is possible that the action of the wheels upon the pavements might tear up the sheet asphalt and cause considerable damage."

There is some speculation among those who own the big commercial cars as to whether or not the commissioners have the power to recall a license when once it

is granted. In the event that they take this action, resort to the courts will undoubtedly be had.

STATE AID FOR OHIO.

Herrick Bill Appropriates \$1,200,000 for Highway Improvement.

Special Correspondence.

CINCINNATI, April 4.—Ohio will soon be in a position to expend \$2,400,000 in improving the public roads in every county in the State unless some unexpected hitch should develop. A joint committee of the Senate and House of Representatives has agreed upon a bill to appropriate \$1,200,000 for the improvement and macadamizing of the highways, and the enactment of this bill into a law is thought to be assured before the State Legislature, now in session at Columbus, adjourns.

This bill was drafted by Squire D. R. Herrick, one of the representatives from this county. Its passage will enable the State of Ohio to take advantage of the national aid under the Brownlow bill, should it be enacted by Congress, thereby securing from the U. S. Treasury an amount equal to that appropriated by the State. Attorney A. G. Turnipseed, of this city, who has been representing the farmers of the southwestern part of the State and co-operating with the automobile interests in urging upon the legislators the merits of the Herrick bill, estimates that its passage will supply even to the least populous county in the State \$24,000 of the State funds, and that it will, in conjunction with the fund supplied from Washington, furnish enough money to improve about 2,400 miles of public highways.

One of the planks in the Republican platform adopted last June at the State convention when the present governor, Myron T. Herrick, was nominated, pledges the party to a policy of road improvement. The bill of Squire Herrick, which is said to have the approval of Governor Herrick, provides that one-half of the State's share of the expense shall be paid out of the State treasury. Of the remainder, one-half is to be paid out of the county treasuries and one-half out of township funds. The whole expenditure is to be in charge of a State Road Commission with an engineer and chief road supervisor who will let the work out on contract and will see that the various contractors do the work satisfactorily. The office of township road supervisor will be done away.

Dr. D. C. Cowles, of St. Paul, Minn., has filed suit against the city for damages sustained by collision with a hose cart on its way to a fire a short time ago while the doctor was answering a hurry call. The impact of the collision threw him from the seat of his automobile.

DEALERS TO WORK FOR LOWER FREIGHT RATES.

National Association of Retail Automobile Dealers Now Has 300 Members.—Many Changes to Occur Among Chicago Garages on May 1.

Special Correspondence.

CHICAGO, April 4.—A conference regarding the work to be undertaken by the National Association of Retail Automobile Dealers, organized in this city during the week of the Coliseum show last February, was held here last week between Secretary-Treasurer C. S. Elston, of Indianapolis, Ind., and President L. J. Ollier, of Chicago. The association now has a membership of more than 300, and new names are being added rapidly. President Ollier says that the first work of the association will be to endeavor to secure better freight rates through appeals to the Interstate Commerce Commission. The association will not discriminate between licensed and unlicensed manufacturers, but will aim to treat all alike. It will ask the A. L. A. M. for a greater discount than is at present allowed.

The Chicago Retail Dealers' Association will meet tonight at the home of the Chicago Automobile Club, and officers will be elected and a constitution and by-laws adopted. The association now has twenty-two members out of a total of thirty-four dealers in the city.

NEW GARAGE IN CYCLORAMA BUILDING.

One of the largest garages in the West will be opened May 1 by the Dan Canary Automobile Company in the old Cyclorama building, at the corner of Wabash Avenue and Hubbard Court. The "Battle of Manila" flourished there for a time after the disturbance in the Philippines, but for a year or more the building has stood vacant. The cyclorama part of the structure is 140 feet in diameter and there is not a post or obstruction of any kind. It will have a capacity of about 100 cars. The floor will be of fine cinders about two feet deep, which will absorb oil and grease that drip from the cars. The entrance will be twelve feet wide, allowing cars to pass each other going in and out. This entrance is on Hubbard Court, only a few yards from Michigan Boulevard. The location is admirable, as it is close to the business district. The office and salesroom face on Wabash Avenue, and in that part of the building the Berg cars will be displayed.

George A. Crane, agent for the Knox, who is now occupying quarters with the Dan Canary Company at 521 Wabash Avenue is seeking a location on Michigan Avenue, as the present quarters must be vacated by May 1.

MANY CHANGES ON MAY 1.

Progress has been slow on the three-story building being erected at the corner of Michigan Avenue and Thirteenth Street

for the Winton Motor Carriage Company and A. C. Bunker, agent for the Autocar, and it will be only by superhuman Chicago hustle that it will be finished by May 1. That is Chicago's moving day, when leases expire and everybody moves because his neighbor is asking him to "move on" and let him take possession. The present Winton salesroom, at Michigan and Fourteenth Street, is to be occupied by Pardee & Co., and in case the new building is not finished in time, Manager Tucker will have to camp out on the sidewalk unless Pardee & Co. permit him to double up with them. There will be many other changes May 1, and the out-of-town visitor who comes after that date to visit the automobile dealers will find new faces and vehicles at places formerly occupied by others.

AN ADDITION TO AUTO ROW.

One addition to the automobile row in Michigan Avenue on May 1 will be the Automobile Supply Co., successor to the P. J. Dasey Co. The present quarters at 19 La Salle Street are badly located and are also not large enough to accommodate the business, as a considerable increase will be made this spring in the stock carried. A number of new lines will be added. The new location will be at 1339 Michigan Avenue.

Fred Pardee, of Pardee & Co., spent last week at the Packard, Yale and Elmore factories, arranging for early deliveries of cars, as his customers are becoming insistent and wish to begin motoring with the first signs of spring.

James Levy has severed his connection with the Githens Bros Oldsmobile Co., and is now in charge of the automobile department of the Mead Cycle Co.

NEW BOSTON GARAGES.

Stimulus of Local Shows Felt in the Back Bay Section.

Special Correspondence.

BOSTON, April 3.—One of the natural results of the influx of new makes of automobiles into Boston during the past month has been an increase of local salesrooms and garages since the local show closed on March 19. These changes center about Park Square and Columbus Avenue; and the old freight stations formerly used by the New York, New Haven and Hartford Railroad are the structures in which most of the new firms open.

NATIONAL AND IMPERIAL AGENCY.

The first new agent to get his quarters into shape is Charles H. Barney, the Newton man, who enters the automobile business here this season with the complete line of National electrics and gasoline cars. He has reconstructed the interior of the quarters formerly used by the Boston Auto Express Company, and by means of new hardwood floorings and sheathing, finished in natural colors, has made a light and commodious sales garage, with 1,500 feet of floor space and a roomy

office. Mr. Barney has just arranged to take on, in addition to the National, a line of the Imperial opposed cylinder cars, made by Rogers & Company, at Columbus, O. This will give him a light delivery car to show with the pleasure vehicles, and a 12-horsepower delivery wagon will be one of the first of the new line to arrive.

YALE AGENCY OPENED.

The middle section of this building has just been partitioned off for occupancy by F. J. Read & Co., who handle the Yale car in the Boston district. Mr. Read has for the last year or two conducted a successful garage at Newtonville, one of the westerly suburbs, and the Boston headquarters is taken partly to facilitate his work in taking care of his customers' cars wherever they may happen to be. This is a kind of accommodation of which his firm has made a specialty. The new place has a doorway at the side, opening onto the lot toward Columbus Avenue; and a new roadway has been graded to lead from Mr. Barney's entrance down alongside the building to the larger freight house, now for some time well-known as the Park Square Auto Station. This will give access to the Yale garage, so that there will be three entrances from the public thoroughfare to this automobile enclosure. Considerable cleaning up and improving of the general aspect of the lot will be done this summer, it is expected.

SECOND HAND SALESROOMS.

The third section of the huge building has just been opened as a garage and sales headquarters for the Commission Automobile Company, of which F. A. Hunt is the leading spirit, and which is the pioneer concern in Boston to buy and sell second-hand autos on a large scale. This company has about 1,500 feet of space inside the building, and half as much more on a large platform at the rear, over which entrance is made to its quarters.

OLDS GARAGE OPENED.

Benjamin Smith, of the Oldsmobile Company of New England, has recently opened the two-story brick building in the rear of his Columbus Avenue place, on Stanhope Street, as a general garage. It will be open day and night, and there are facilities for taking care of all kinds of vehicles.

NEW PIERCE GARAGE IN BUFFALO.

Special Correspondence.

BUFFALO, April 4.—Contracts have been signed for the construction of a fine business building on upper Main Street, this city, to be occupied by the George N. Pierce Company, next fall as automobile salesrooms and garage of the handsomest and most commodious character.

The salesroom will have a frontage of 80 feet on Main Street and a depth of 100 feet and be at least three stories high. The garage at the rear will be of the same dimensions, but only one story high. The structure will be planned and constructed

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especially to suit the purpose of the Pierce company, which will take a ten-year lease. There will be an entrance on Main Street, another on Franklin Street and an alley will lead from Edward Street to a side entrance. The building will be of slow burning material, the front being mostly of plate glass with terra cotta trimmings. The work of razing the residence now occupying the site will be begun at once.

FINE NEWARK GARAGE TO OPEN.

Special Correspondence.

NEWARK, April 5.—The Motor Car Co. of New Jersey will move into new quarters on Halsey Street about April 15. Its new garage is one story in height, 185 by 46 feet. A room 60 by 80 feet at the rear will be used for storage and repairing, the large front space being used solely as a sales-room. More than 100 cars will be stored and handled comfortably. The repair shop will be fitted with a crane on a sliding track to enable workmen to raise machines easily in order to get at the chassis for repair work. There are two pits in the floor, one for the use of workmen and the other for the free use of customers storing their cars. Each pit will accommodate three machines at a time. The floor, which is of concrete, is unbroken by pillars or posts, and at one side is a washing stand where every car will be taken and cleaned as soon as it comes in from the street.

A record is to be kept of each car as it goes out and comes in by means of a registering clock. The unauthorized use of the vehicles by chauffeurs will be impossible under this system, as the owners will have complete records of their cars. The entire garage is in view from the office. A private smoking room for men, a reception room for women and a chauffeurs' club-room are provided. The interior finish is in white. The front is of pressed brick, with white stone trimmings. There are fifteen skylights in the roof. At night 160 electric lights will make the inside almost as light as day. The garage is to be open twenty-four hours a day, 365 days in the year. A gas engine of 15 to 20 horsepower will be installed to generate electricity for lighting the building, charging batteries and furnishing power for the repair shop machinery.

JURY TRIAL OF KENSINGTON SUIT.

Special Correspondence.

BUFFALO, April 4.—An answer has been interposed by the Kensington Automobile Manufacturing Company to the involuntary bankruptcy petition filed against it by Philip A. Williams and W. G. Morse, and others. The company demands that the issue be tried before a jury. In its answer the Kensington company denies that the petitioning creditors have probable claims against it in excess of \$500 more than the value of the securities.

BUFFALO MOTORCYCLISTS ORGANIZE.

Special Correspondence.

BUFFALO, April 4.—A large delegation of motorcyclists met Saturday evening at 866 Prospect Avenue and took measures toward perfecting an organization that probably will be known as the Motorcycle Club of Buffalo. They believe that the rapidly increasing local interest in motorcycling has reached a point where such a movement will be of advantage. It is intended to ascertain whether or not the motor bicycle is to be classed as an automobile and be governed by the laws regulating the use of four-wheeled cars. An effort will also be made to check reckless and dangerous riding on the streets.

Clarence Beecher presided at the meeting and appointed committees to draft a constitution and by-laws. It is hoped that every motorcyclist in this city, and there are many, will become interested in the movement. A committee is to confer with the police department to make arrangements whereby offenders against the ordinances will be justly punished and still make it possible for the motorist to ride in the streets without constantly being on the lookout for the police. Another meeting is to be held soon.

REORGANIZED GERMANTOWN CLUB.

Special Correspondence.

PHILADELPHIA, Apr. 4.—The Automobile Club of Germantown, which has recently secured its incorporation papers was formed from the old Germantown Automobile Club, which was composed of the pioneer automobilists of Philadelphia. The requests for admission to membership were so numerous that it was decided to incorporate and to change the name at the same time.

Officers have been elected for 1904 as follows: President, Prescott Adamson; vice-president, H. W. Butterworth; secretary and treasurer, Robert P. Hooper. The club will be governed by a board to consist of nine men, as follows: Prescott Adamson, Harry W. Butterworth, H. K. Duffus, S. B. Ferguson, William E. Helme, Robert P. Hooper, Thomas B. Prosser, Mark B. Reeves, and Charles B. Thompson.

Plans have been accepted for a new clubhouse to be built this spring at the corner of Emlen and Carpenter Streets, Germantown, Philadelphia. It will be a unique clubhouse, as it will contain a very large garage as well as thoroughly modern clubrooms for social purposes. There will be bowling alleys and provision for every other indoor sport that can be had in the building.

L. I. CLUB PARTS EXHIBIT.

The Long Island Automobile Club has established an innovation in the shape of a permanent tire exhibit at its clubhouse, at 32 Hanson Place, Brooklyn. Tire sec-

tions, fitted to the corresponding rim sections and including the lugs or other fastenings, are shown.

They include all the best-known American makers—Goodrich, Diamond, Good-year, G & J, and Fisk companies. The metal parts are nickelized, and the sizes include nearly all in common use. An exhibit of acetylene lamps and generators and of oil carriage lamps, is also furnished by the R. E. Dietz Co., which includes one or two sections of generators by which the construction can be seen. These have attracted much notice.

JERSEY CLUB RUN TO STATEN ISLAND.

Special Correspondence.

NEWARK, April 4.—The New Jersey Automobile Club, of which B. M. Shanley is president, will call its first club run of the series to be conducted this season, for the middle of April. The destination will be New Dorp, Staten Island. J. W. Mason will act as marshal to maintain order and prevent impromptu racing. The route will be through Elizabeth, Rahway, Metuchen, Perth Amboy, crossing on the ferry at Tottenville to Staten Island, thence to New Dorp, where dinner will be eaten at Wertmiller's Hotel. The return trip will be via Port Richmond, ferry to Bergen's Point, up the Hudson County Boulevard and across the Jersey meadows on the Plank Road to Newark.

The club's headquarters are at the Board of Trade rooms, 764 Broad Street. The members are taking great interest in club affairs.

BUFFALO LAUNCH CLUB GROWING.

Special Correspondence.

BUFFALO, April 4.—A well-attended meeting of the Launch Club of Buffalo was held at the Builders' Exchange last week. The membership has reached seventy-five and there are nineteen applications pending action. It was decided to limit the membership to 125 for some time, so as to keep a waiting list and enable full consideration of applications before acting upon them. A number of members were present from Niagara Falls and Tonawanda. An interesting talk was given by Dr. A. E. Hubbard, who spoke on electricity in its application to gas engines. It is proposed to hold regattas and races during the coming season and some of the high-speed launches may take part in the regattas at Cleveland and Detroit.

An automobile club is being organized at Des Moines, Iowa.

Sentiment favors the organization of an automobile club in Evanston, Ill., and early action to that end is likely.

The Colorado Automobile Club is now considering conducting an endurance test during the coming summer from Denver to Salt Lake City. The exact route to be taken has not yet been selected.

Current News from New York.

With the course practically selected on Long Island, the cup ordered from Tiffany by W. K. Vanderbilt, Jr., the donor, and with plenty of cars ready for the contest, the only question which the American Automobile Association is now considering in regard to the proposed long-distance road race in July, is whether the test shall be open to the world or be limited to American cars. This matter has been under discussion by the officials in charge of the event, and although the general inclination is in favor of making the race open to the world, there is a possibility that it may be limited to American machines. For the best interests of the trade and the sport, it is argued, however, that the contest should be open to everyone. Although a number of courses on Long Island are under consideration and permission to use them seems assured, no decision as to the route has been made.

It is a strange coincidence that whenever an effort was being made to secure favorable legislation for automobilists at Albany some automobile accident would occur to give weight to the arguments from the opposite side. This was remarked at a recent meeting of the Automobile Club of America, when it was recalled that when George F. Chamberlin was doing the legislative work for the club, there was a fatal automobile accident in New York; that the same thing happened when Mr. Shattuck was working at Albany two weeks ago, and that this spring, while President Scarritt and his supporters were at the capital, came the fatal accident to Miss Florence Maas recorded in last week's issue. Discussing the new measure, President Scarritt said that the Automobile Club of America had pledged itself at Albany to enforce its provisions, and he wished every member of the club and every automobilist to stand by him in this position.

Small boys on the roads leading out from Long Island City, have for sometime past enjoyed throwing marbles and stones at passing automobilists. A number of operators were hurt and recently one of the missiles struck a chauffeur in the eye and he involuntarily took his hands off the steering wheel. The machine overturned

and the occupants were badly shaken up. The police have promised to give the matter attention.

The Standard Automobile Company has received an order from W. K. Vanderbilt, Jr., to install a 60-horsepower motor in his new forty-five-foot power boat now building at City Island. The motor is taken from the Mors automobile with which Vanderbilt made his world's record over the Dourdan course in France and with which he also captured first prize in the Eagle Rock hill-climbing contest last Thanksgiving Day.

Those who may wish to visit Clason Point Inn, a new resort for automobilists on the Sound in Westchester, will find the following route the best: Through Central Park to Seventh Avenue, across Central Bridge to Jerome Avenue and north to Fordham Road; follow trolley east under elevated railroad to Pelham Avenue or Parkway; east to Morris Park race track, turning south toward Westchester village, at the end of race track, to Main Street, Westchester; turn south at Mullin's horse-shoeing establishment into Westchester Avenue, striking trolley at end of block; follow 1 1/2 miles southward to Clason Point Road; turn left and follow road into Point.

It has been noticed that the parts of Central Park where demonstrators formerly took possible customers for short rides, is avoided since the arrest of a number of operators by the park police. One can stand at 59th Street and see ten machines go up Eighth Avenue or the Boulevard to one that enters the park.

The Yale car made by the Kirk Manufacturing Company, and the Courier, built by the Sandusky Automobile Company, are now represented in New York by the Pioneer Automobile Company, 54 West 43d Street. The new officers of this concern are I. S. Atwood, president; L. J. Atwood, secretary, and G. L. Henry, manager and treasurer. The Yale is a 16-horsepower car which will carry six passengers. Its excellent appearance at the show made many friends for it. The Courier is a runabout of 7 horsepower.

It is possible that the route from New York to Buffalo in the St. Louis run will be left optional with drivers. The general demand seems to be for a route by way of Albany, Utica, Syracuse and Rochester, instead of by way of Kingston, Binghamton and Bath.

New officers for the Columbia University Automobile Club have been elected as follows: President, William A. Tilt, 1905; vice-president, William Pitt Striker Earle, 1904; secretary and treasurer, Roscoe Crosby Gaige, 1903; honorary vice-president, George Mercer, Jr., 1904.

It is probable that H. L. Moody, of the Central Automobile Company, will drive the 100-horsepower Central Greyhound (Buffum) in the races this season. Judging from its appearance and the size of each of its eight cylinders, the car should come close to record figures.

Andrew Carnegie's new private garage on East 90th Street, will be supplied with five electric machines ordered from the Electric Vehicle Company. The order calls for \$20,000 worth of carriages and includes an opera bus, a brougham, a victoria and a landau.

Raymond P. Hoagland has ordered from Hollander & Tangeman, an automobile boat that will be fitted with two 75-horsepower F. I. A. T. engines. The hull will be from designs by H. R. Sutphen, of the Electric Launch Company.

S. D. Stevens, of Rome, N. Y., who scored so well with a 60-horsepower Mercedes in the Florida tournament last February, has bought a 35-horsepower landau from F. A. LaRoche, of the American Darracq Automobile Company.

The New York home for Northern cars has opened at 142 West 38th Street, and Peter Fogarty, the proprietor, is busily preparing for the season's business. Associated with him is A. L. Newton, formerly with John Wanamaker.

Many sales of Fredonia cars have been made by Newbury & Dunham, metropolitan agents for the Youngstown makers. The sales include both the 10 and the 12-horsepower models.

E. J. Willis reports the sale of Orient Buckboards to Kyrie Bellew and two or three other well-known theatrical persons.

AMERICAN AND FOREIGN AUTOMOBILE AND MOTOR BOAT FIXTURES.

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| April 1-15.—Motor Boat Exhibitions and Races. Monaco. International Sporting Club and <i>L'Auto</i> . | June 24-25.—Challenge Cup Races for Speed Launches. Hudson River, at 86th Street, New York. American Power-Boat Association. |
| April 16-May 31.—Automobile Show. Vienna, Austria. | July 16-17.—Motor Boat Races. Ostend, Belgium. |
| April 19.—Hill Climbing Contest. Commonwealth Avenue Hill, Boston. Massachusetts Automobile Club. | July 17.—Motor Boat Run. Antwerp to Ostend, Belgium. |
| May 19-30.—Non-Stop Run, Glasgow to London. Automobile Club of Great Britain and Ireland. | July 18-23.—Automobile Week at Ostend, Belgium. |
| May 23-31.—Automobile Week at Aix-les-Bains, France. | July 23-25.—Motor Boat Races. Lucerne, Switzerland. |
| May 30.—Race Meet at Readville Track, Boston. Massachusetts Automobile Club. | July 30.—British International Cup Race for Motor Boats. The Solent, England. A. C. of G. B. & I. |
| May 30.—Race Meet at Empire City Track, Yonkers, N. Y. | August 5-11.—Paris-Deauville Motor Boat Race. |
| May 30.—Speed Launch Races. Manhasset Bay, off Port Washington, L. I. American Power-Boat Association. | August 12.—Gaston-Menier Cup Race for Motor Boats. France. |
| June 10.—Mont-Cenis Hill Climbing Contest. Automobile Club of Italy. | August 13-14.—Calais-Dover-Calais Motor Boat Race. English Channel. |
| June 16-20.—International Cup Race Week. Homburg, Germany. | August 15.—Calais-Boulogne-Calais Motor Boat Race. English Channel. |
| June 22.—International Motor Boat Races, Kiel, Germany. German Automobile Club. | August 28.—Ventoux Hill Climbing Contest at Avignon, France. |
| | October 5.—Dourdan Kilometer Trials. <i>Monde Sportif</i> . |
| | October 9.—Gallion Hill Climbing Contests. France. <i>L'Auto</i> . |
| | October 14-22.—Leipzig Cycle and Motor Show. Germany. |
| | November 20.—French 100-Kilometer Trials. Automobile Club of Algeria. |



The Grant Tool Co., of Franklin, Pa., has been reorganized under the name of the Franklin Machine & Tool Co.

H. N. Beach, agent for the Knox automobiles at Waterville, Mo., is erecting a new garage, which he expects to occupy about the middle of April.

The Locomobile Company of America has up to date this season, made all deliveries of its gasoline touring cars on time, as promised when the orders were taken.

The Pope Motor Car Co. has recently received an order for ten four-cylinder automobiles for shipment to Japan, supposed to be wanted for the use of the Japanese army.

The executive committee of the National Association of Automobile Manufacturers has appointed Robert W. Sleusser resident manager at St. Louis of the automobile exhibit at the World's Fair.

A fifty-year lease on a block at the intersection of Olive Street and Washington Avenue, St. Louis, has been closed by the A. L. Dyke Auto Supply Co., which will open a garage in the building,

Thos. B. Jeffery & Co., correcting a statement recently published that they had opened a branch house at Milwaukee, Wis., state that they are represented there by George Bailey, whose repository is at 312 Wells St., Milwaukee.

The Weston-Mott Co., of Utica, N. Y., is building an addition to its plant that will double its present capacity. This was necessary to accommodate its increasing business and will soon be ready for occupancy.

The Buckmobile Company, of Utica, N. Y., has opened a garage at 1900 Broadway, New York, where it has ample space for display. The new concern is known as the Buckmobile Agency of New York and is composed of A. J. Seaton, formerly of Utica; J. W. Gillies, of Flushing, L. I., and W. H. Henderson, of New York City.

A big "hilltop" garage has just been opened for the accommodation of suburban automobilists by the Gunther Brothers Co. on Madison Road, in East Walnut Hills, where they have leased for five years a big building that has been in use for several years as a dance hall and bowling alley.

The Reliance Motorcycle Co., of Bath, N. Y., which was incorporated last summer with \$15,000 capital stock, has purchased the building of the Empire State Cycle Co., to be used for the manufacture of Reliance motorcycles. Negotiations have also been made for the purchase of bicycle manufacturing machinery contained in the building.

The elimination trials for the German Gordon Bennett cup team are to be held May 15, over a course thirty-one miles in length, which will be covered six times.

The Autovehicle Company, 79 Orange Street Newark, N. J., is moving its storage and repair department into a brick building on Essex Street.

A motor ambulance for dogs has been endowed to the dog hospital at Gennevilliers, near Paris. This ambulance, which has been frequently called by telephone to attend injured dogs, has been much admired for its ingenious arrangements.

A factory is to be established in Hagerstown, Md., by Robert S. Crawford, of Philadelphia, and Hagerstown associates, for the manufacture of an automobile designed by Mr. Crawford, on whose property the factory will be located.

The building of a racing automobile by the students of the University of Pennsylvania has aroused the interest of Harvard to challenge the Quaker to a race. As a number of the students are owners of automobiles, such a race should arouse no little interest.

A new garage building, 50 by 90 feet, will be erected in Lima, Ohio, by W. E. Rudy, for an automobile and bicycle establishment. Mr. Rudy is agent for Rambler, Ford and Waverley cars, and during the past two years has sold thirty motor cars in addition to a large number of bicycles.

A petition for permission to sell at public sale the real estate of the bankrupt Searchmont Automobile Co., at Trainer, Pa., together with the buildings and machinery, materials and stock for cars, has been filed with the referee in bankruptcy by the trustees. A meeting for consideration of the petition will be held April 12 at 3 p.m. in the Post Office building in Philadelphia.

The Rochester Automobile Company is now comfortably installed in its new and commodious salesroom at 150-160 South Avenue, Rochester, N. Y. An opening and housewarming was held all of the week of March 21, during which time all those interested in automobiles were handsomely entertained.

When the glass sides are in place the "Thomasine" body, designed for the E. R. Thomas Motor Co. and fitted to some of its three-cylinder touring cars, closely resembles the limousine, but may, without alighting, be quickly converted into an open car, closely resembling, though more solid, a canopy top car and presenting no more wind resistance. The glass windows drop into compartments out of the way and out of danger of breakage.

By the use of a motorcycle the Reverend Adam Baron, a progressive young priest of Linton, Ind., is enabled to preach in two parishes fifteen miles apart each Sunday, making the journey more quickly than would be possible with a horse.

A six months' prospecting trip by automobile for precious metals was begun the last week of March by D. F. Kelly and Smith McKay, who left Denver with a regular camping outfit and provisions for a tour in Colorado, Arizona and New Mexico.

Charles A. Wardle, who for many years was with the Locomobile Company as Chicago representative and later with several other concerns in the automobile line, has accepted a position with the Association of Licensed Automobile Manufacturers as special traveling representative, and will take up the duties of the new position at once. Mr. Wardle is well and favorably known to the trade.

The press of orders has been so great of late that the Ford Motor Co., has been forced to look for larger manufacturing quarters, and negotiations are pending for a site on which a large factory may be built. Within a week or two the capacity of the present plant will be greatly increased. The outlook for the year is very bright, and orders have been booked for as many cars as can be delivered.

A bill was passed in the New Jersey Senate recently amending the automobile law of 1903 by providing that no license numbers shall be displayed on a vehicle used in that State except those of the New Jersey licenses. The practice of carrying two or more license tags on the rear of the machine has caused confusion to officers when trying to determine the ownership of a car which was observed to be exceeding the legal speed limit.

The fact that there is no law in Atlanta, Ga., to restrict the speed of automobiles was recently brought to light as the result of a small boy being run over by a rapidly moving automobile and narrowly escaping death on one of the principal streets of the city. When the operator was arraigned on the charge of reckless speeding, no law could be found by which he could be punished.

Young & Miller, of Detroit, who handle the Elmore cars, have opened a new and handsome garage at 127-129 Grand River Avenue in that city, with a superb equipment. All the most modern devices are employed to make this a suitable place for storing, repairing and cleaning automobiles, and a corps of competent mechanics has been engaged for the work.

